

2014 Epidemiologic Profile of HIV in Michigan



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2014 Profile of HIV in Michigan

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Summary

The HIV epidemic in Michigan:

At the end of 2013, 16,750 persons were known to be living with HIV in Michigan, over half (54 percent) of whom had progressed to stage 3 HIV infection (AIDS) (table 8, page 112) (based on current residence; see page iv for more information). Currently, there are persons living with HIV in all but one county of the state (table 9, pages 113-114). The statewide prevalence of HIV is distributed disproportionately. Most HIV cases are diagnosed and live in the Detroit Metro Area where 43 percent of the state's population lives but 63 percent of all persons living with HIV in Michigan reside (table 8).

The overall rate of new HIV diagnoses in Michigan remained stable between 2008 and 2012 (See page v-vi for information on 2014 *Annual Review of HIV Trends in Michigan*). However, HIV continues to disproportionately impact certain racial and ethnic groups. Rates of new diagnoses among black males are 11 times higher than among white males, and rates among black females are 18 times higher than among white females (Trends). Black males and females make up 14 percent of the general population in Michigan but 55 percent of persons living with HIV (table 8).

The risk transmission category with the highest number of new diagnoses, as well as the majority of all prevalent cases, remains men who have sex with men (MSM). The number of diagnoses among injection drug users (IDU) has declined for the past several reports but did not show a decrease this time around, and persons with a risk of heterosexual sex represent an increasingly larger proportion of new diagnoses (Trends).

The rates among 20-24 year olds are now the highest of any age group. Nearly three quarters of all new cases among adolescents and young adults (13-24 year olds) are residents of the Detroit Metro Area at diagnosis (Trends). Closer analyses of these data reveal that this trend is due to an increase in HIV among young black MSM. Teens newly diagnosed with HIV are more likely to be black MSM compared to adults 20 years and older (63 vs. 29 percent, respectively) (Trends). The section on young black MSM was updated for this publication (page 101). The Michigan Department of Community Health (MDCH) continues to monitor this change in the epidemic and aid in the development of targeted prevention and care programs.

HIV in the United States and world:

The most recent data show that in 2010, Michigan had the 18th highest number of persons living with HIV in the United States.¹ Nationally, the number of persons living with HIV increased 6.4 percent between 2008 and 2010 while rates of new diagnoses were stable (similar to trends seen in MI). At the end of 2010, an estimated 872,990 persons were living with HIV in the US. In 2011, the estimated national rate of new HIV diagnoses was 15.8 per 100,000 population. The estimated number and rate of deaths per year among HIV-positive persons remained stable between 2008 and 2010 (Centers for Disease Control and Prevention. *HIV Surveillance Report 2011*, vol. 23. http://http://www.cdc.gov/hiv/pdf/statistics_2011_HIV_Surveillance_Report_vol_23.pdf#Page=17).

According to the World Health Organization, an estimated 2.1 million new HIV diagnoses and 1.5 million HIV-related deaths occurred during 2013 worldwide, bringing the total number of persons living with HIV to 35 million. This translates to nearly 5,800 new HIV diagnoses each day (*Global Summary of the AIDS Epidemic 2013*. http://http://www.who.int/hiv/data/epi_core_dec2014.png?ua=1).

¹National statistics in this section include all 50 states, with confidential name-based HIV infection reporting as of 2008.

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Technical Information

Updates on new information:

Michigan is at the forefront of national HIV surveillance and conducts multiple activities to supplement routine HIV surveillance. The 2014 Profile includes updated data from the Medical Monitoring Project (MMP), National HIV Behavioral Surveillance (NHBS), and HIV incidence estimates. HIV resistance data (VARHS) have required extensive analysis by the CDC. Recently, this analysis was completed, and Michigan has begun to investigate state-specific rates of HIV drug resistance and subtype variability. For the first time, those results are presented in this document. In response to previous requests, this year's Profile includes a new 'Special Populations' section on HIV-positive Women, Infants, Children, and Youth (WICY) (page 105). Included in the 2012 Profile and updated for this year's publication are sections on HIV-positive persons of Arabic descent and transgender persons (pages 99 and 109, respectively).

As with the 2012 Profile, the HIV, Body Art, Tuberculosis, Viral Hepatitis (HBTv) section is providing prevention and care planning groups with the epidemiologic profiles for the State of Michigan, the Detroit Metropolitan Area, and Out-State Michigan (including the upper peninsula and the remainder of the lower peninsula).

HIV terminology:

As of January 2012, MDCH began using new terminology to describe late stage HIV infection, with "stage 3 HIV infection" replacing the term "AIDS". Additionally, cases previously called "concurrent diagnoses" (receiving an AIDS diagnosis within 30 days of initial HIV diagnosis) are now referred to as "late HIV diagnoses". This new language is in line with language used by the CDC in several recent publications. Please refer to the glossary in appendix A (page 233) for definitions of terms.

Use of current residence vs. residence at diagnosis:

The MDCH HBTv Section creates the Epi Profile every other year; however, statewide and some county statistical analyses are created and disseminated on a quarterly basis. When reading either of these documents, keep in mind that they are based on two different populations. The HIV Surveillance Annual Analyses (released in July) use cases of HIV whose **residence at diagnosis** was Michigan (cases that were diagnosed in Michigan can presently be living elsewhere). This method is the standard set by the CDC. The Epidemiologic Profile of HIV in Michigan uses cases of HIV that are **currently living in** Michigan. There are 1,094 more persons included when using the HIV-positive population **currently living in** Michigan, regardless of where they were living when diagnosed with HIV. Different populations are used in order to satisfy questions on both populations. Therefore, there may be differences in numbers, percentages, and rates when comparing the two types of documents.

NOTE: There are limitations to current address data. We use the most recent address data available for this Profile, but some patient addresses are greater than ten years old. Therefore, persons who moved within the state of Michigan or to/from another state since that address was obtained may not be accurately counted in the correct geographic area. Efforts are underway to improve current address data.

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Technical Information

Computation of prevalence estimates:

HIV prevalence estimates in this report are based on adding the following three components and rounding to the nearest 100: 1) the number of reported cases currently living with HIV infection in Michigan; 2) the number of diagnosed HIV infection cases not yet reported, estimated at 5 percent of the reported cases living with HIV infection; and 3) the number of HIV infection cases not yet tested, estimated at 18 percent of the total cases living with HIV infection (identical to the CDC estimate). The prevalence estimate for all HIV-positive persons currently living in Michigan is 21,300 cases. Please note that this calculation is based on the number of reported HIV-positive persons *currently living in* Michigan, not those living in Michigan at the time of diagnosis as in the annual HIV statistics.

HIV prevalence estimates for each subgroup are calculated by multiplying the proportion of total cases in that group by 21,300 (the current total prevalence estimate). For example, 78 percent of reported HIV infections are among males. Therefore, the number of males currently living with HIV in Michigan is estimated to be 16,680 ($78.3\% \times 21,300$ rounded to the nearest 10; extra decimals provided for calculation purposes). Since the estimates are rounded, totals may not equal 21,300. The minimum estimate is 10.

Prison estimates of HIV infection are not calculated, because all prisoners are tested for HIV upon entry to prison; therefore, there is no need to account for unreported and untested cases. The prison prevalence estimate is the reported number of persons living with HIV infection and diagnosed in prison rounded to the nearest 10.

County estimates of HIV infection are calculated similarly to the subgroup estimates described above; however, for county calculations the proportion of cases in a particular county is multiplied by the statewide estimate minus the prison estimate ($21,300 - 370 = 20,930$). For example, 12 percent of HIV infection cases (not including cases in prison) are currently living in Oakland County. Therefore, the number of HIV-positive persons currently living in Oakland County is estimated to be 2,590 ($12.37\% \times 20,930$; extra decimals provided for calculation purposes). Since the estimates are rounded to the nearest 10, the county totals may not equal 20,930. The method of calculating prevalence estimates for counties was revised as of April 2008; thus, county estimates presented prior to this date may differ from current and future estimates.

Use of date of *diagnosis*:

The date of HIV *diagnosis* does not tell us when persons were first *infected*, because their HIV diagnosis may take place months or years after infection. In order to measure prevention achievements, the number of persons who become newly infected would ideally be followed over time. Methods for measuring new infections (incidence estimates) continue to improve, and new data are presented in this report. Trends continue to be analyzed based on new diagnoses, however. Due to methodological constraints and the relative newness of incidence data, new diagnoses remain the best current measure of how fast the epidemic is spreading among different populations.

Methods to assess trends over time:

To evaluate trends in new HIV diagnoses in Michigan over time, we estimated the number of persons newly diagnosed with HIV infection between 2008 and 2012 by adjusting the number of reported cases to account for those who may not have been reported to the health department by January 1, 2014. These adjustments were made by weighting the data.

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Technical Information

Unless otherwise noted, numbers cited include persons living with all stages of HIV infection. We used regression modeling on the adjusted data to assess significant changes in annual rates of new diagnoses overall and by race, sex, and age. Rates for race and sex subgroups were calculated using intercensal annual population estimates released by the Census Bureau in 2013 and based on the 2010 census, the most recent year for which 2008-2012 data were available. Rates for age at diagnosis were calculated using the 2012 Bridged-Race Population Estimates produced by the Population Estimates Program of the U.S. Census Bureau in collaboration with the National Center for Health Statistics. For risk groups, we analyzed annual counts as there are no reliable denominator data available for rate calculation. Trends overall and in subgroups are described using average annual percent changes in rates (or counts) of new diagnoses. Only significant trends and their corresponding percent changes are shown. "Significant" indicates statistical significance assessed at $p < 0.05$.

Numbers of reported HIV cases in Out-State Michigan were insufficient to apply this methodology. Since trends cannot be reported for Out-State Michigan, the chapter dedicated to this geographic area presents figures created using raw rather than adjusted data. Consequently, comparisons between adjusted numbers in the Statewide or Detroit Metro Area chapters and raw numbers in the Out-State chapter are not valid. For the complete Trends reports, please visit the following link: http://www.michigan.gov/documents/mdch/MIRReport14_456013_7.pdf

Presentation of risk and exposure categories:

Although case reporting includes ascertainment of multiple behaviors associated with HIV transmission, current surveillance methods cannot distinguish the specific route of HIV transmission in persons who have engaged in more than one risk behavior. For the purposes of analysis and interpretation, the Centers for Disease Control and Prevention created a risk hierarchy to classify people into risk transmission categories. When the transmission categories were created, the order from top to bottom was meant to represent the most likely route through which HIV was transmitted. The hierarchy was established based on what was known at the beginning of the epidemic about how HIV was transmitted, when almost all cases were among males and there was little documented heterosexual transmission. Since then, the hierarchy has not changed, even though our understanding of the most efficient HIV transmission routes has. Additionally, concerns have been raised that use of hierarchical categories masks the identification of multiple risks that a person may have.

For this reason, Michigan also presents exposure categories, which convey all known modes of HIV exposure. Like the traditional risk transmission categories, the exposure categories are mutually exclusive, meaning that each case is included in only one category. Exposure categories, however, allow readers to see all the reported ways in which a person may have been exposed to HIV without stating definitively how that individual was infected. Please see the glossary in appendix A (page 233) for more detailed definitions of risk transmission and exposure categories.

Ranking of behavioral groups:

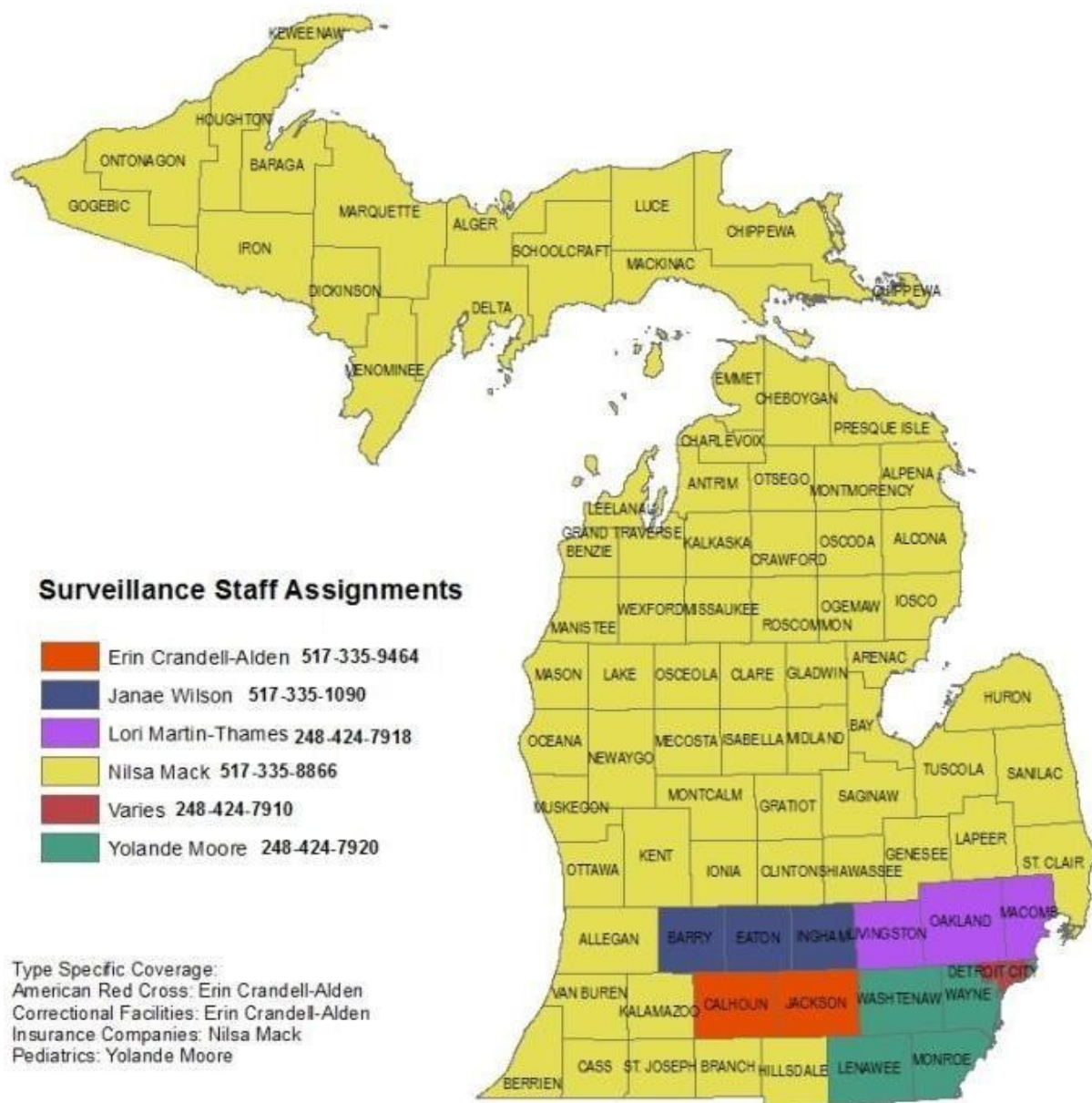
A simplified method is used to rank the priority of behavioral groups for prevention and planning purposes. This rank is based on the proportion of total reported HIV infection cases and trends over time for each risk transmission category. Ranking is done separately for each geographic area.

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HIV Surveillance Staff Contacts

Contact information:

Staff from the MDCH HIV, Body Art, Tuberculosis, Viral Hepatitis (HBTV) Section are available to assist in interpretation of this Profile as well as to provide additional analyses. Presentation-friendly versions of the data are also available upon request. Questions or comments about this document should be directed to your county contact. General questions may be directed to Janae Wilson (517-335-1090). With the cooperation of reporting sites, surveillance data will continue to guide HIV prevention strategies and resource allocation for prevention and care services in Michigan.



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Strengths and Limitations

When making planning decisions, it is important to consider the overall strengths and limitations of this document. Although the Epi Profile is comprehensive and draws from a number of data sources, there are many things that the Profile cannot explain.

Although eHARS (the enhanced HIV/AIDS Reporting System, the HIV data management system used nationally and in Michigan) is extensive, it is based on data for persons who have been confidentially reported (i.e., by name). Consequently, HIV-positive persons who have not been tested, have tested anonymously, or have tested by name but were not reported, are not included in these analyses. Therefore, HIV infections are under-detected and underreported. However, HIV surveillance data are considered to be among the most complete compared with other notifiable diseases and infections. In order to compensate for undocumented infections, estimates of HIV infection are provided in several tables.

The data presented in this report do not necessarily represent the characteristics of persons who have been recently infected with HIV, nor do they provide a true measure of HIV incidence. Persons are tested at differing times after they become infected, and many persons are not tested until HIV infection has progressed to stage 3 (late diagnoses). The most extensive population-based incidence estimates (new infections) available to date are included in this document, but incidence estimates are not available for several populations. For this reason, data in all other sections and tables of this document are based on new diagnoses.

Analyses of many different data sets are presented to provide robust representations of particular subpopulations. However, demographic and geographic subpopulations are not equally as sensitive to differences and changes in access to health care, HIV testing patterns, and specific prevention programs and services. All of these issues must be carefully considered when interpreting HIV data. Therefore, it is important to make comparisons across data sources to get the most complete picture of the epidemic.

The most current analysis available is presented for each source of data; however, the date of the most recent data differ from one source to another. For example, the most recent data available for the Youth Risk Behavioral Survey (YRBS) are from 2013, whereas some data (such as data from National HIV Behavioral Survey (NHBS)) were collected in 2012. Strengths and limitations for each individual data set are further discussed in the Data Sources section (page ix).

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Data Sources

Data were compiled from a variety of sources to provide the most complete picture of HIV in Michigan as possible. When interpreting data, keep in mind that each of data source has strengths and limitations. A brief description of each data source follows. Throughout this document, the data source(s) is listed at the top of each page. Wherever possible, readers are directed to the appropriate table or figure where data are presented. Please note that the majority of data from external sources (non-surveillance data) are not presented in tables.

Core HIV Surveillance

Enhanced HIV/AIDS Surveillance System (eHARS): HIV Surveillance Data (1983–present)

In 1983, the Michigan Department of Community Health (MDCH) established a surveillance system to track newly diagnosed cases of AIDS. This surveillance system is managed by the HIV/STD/VH/TB Epidemiology Section and was expanded in 1989 to include confidential name-based HIV reporting. In 2005, laboratory reporting was added to the surveillance system, and in 2011 HIV cases were reportable in the Michigan Disease Surveillance System (MDSS) as electronic case reports (ECRs). Standardized case report forms and laboratory reports are used to collect sociodemographic information, exposure data, laboratory and clinical information, vital status (i.e., living or dead), and referrals for treatment or services. These data are obtained from medical record abstractions. Patients are not interviewed as a part of routine core surveillance. HIV surveillance data may underestimate the number of recently infected persons, because some HIV-positive persons have not been tested or have been tested but not yet reported to MDCH. Persons who test positive at anonymous test sites and have not sought medical care (where they would likely be re-tested and reported by name) are not included in HIV surveillance statistics, because cases without names cannot be de-duplicated. Therefore, HIV infection data provide minimum estimates of the number of persons who are HIV-positive and living in Michigan. In addition, newly diagnosed cases may be reported to the health department at any point along the clinical spectrum of disease. Consequently, HIV infection data do not necessarily represent characteristics of persons who have been recently infected.

Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS) - Incidence Data (2006–2010)

Michigan participates in STARHS (Serologic Testing Algorithm for Recent HIV Seroconversion), a CDC-funded initiative to incorporate HIV incidence testing into routine surveillance nationwide. The goal of STARHS is to produce incidence rates (rates of recent infection in the last six months) for HIV. HIV incidence data have important public health implications for evaluating HIV intervention and prevention programs for effectiveness, for targeting prevention efforts associated with ongoing transmission, and for allocating resources to populations in greatest need of prevention efforts. STARHS generates population-based estimates of HIV incidence based on the results of an incidence test (BED Assay) and testing and treatment history questions answered by the infected person. The STARHS incidence test is performed automatically on leftover serum from the diagnostic, confirmed positive specimen. The remnant serum is sent, without name, to the New York State STARHS Lab for the incidence test. If the original diagnostic specimen is not available, a subsequent serum or plasma specimen obtained within three months of diagnosis is acceptable for testing. The BED Assay classifies each infection as recent or

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long-standing based on the amount of HIV antibody present. At a population level, these results can help estimate the number of new HIV infections occurring each year in a population.

VARHS (Variant, Atypical and Resistant HIV Surveillance) Data (2004–present)

VARHS is a CDC-funded surveillance initiative that incorporates HIV drug-resistant genotype testing (specifically sequencing the reverse transcriptase (RT) and protease regions of the *pol* gene of HIV) into routine diagnostic HIV testing protocols. Beginning in 2004 and continuing until mid-2010, all individuals who had their first confidential HIV diagnosis identified through MDCH's laboratory system or a cooperating private/public laboratory, and who are not known to have taken antiretroviral therapy, were provided with a clinically useful genotype and assessment of drug resistance and HIV subtype. Beginning in 2010 and in line with new recommendations that advocate physician-initiated baseline genotype testing for newly diagnosed HIV-positive individuals, private and commercial labs that conduct HIV genotyping were required to report nucleotide sequence data to MDCH so that statewide trends in HIV drug resistance and subtype can continue to be accurately and comprehensively monitored.

Supplements to HIV Surveillance

Medical Monitoring Project (MMP) (2010)

The Medical Monitoring Project is an ongoing population-based surveillance project designed to assess clinical outcomes and behaviors of HIV-positive persons receiving care in the U.S. The MMP collects information on both behavioral and clinical data from confidential in-person interviews and medical record abstraction (MRA). There were 164 patients interviewed and 149 medical record abstractions during the 2009 MMP data cycle. For MMP, the surveillance period is defined as the 12 months preceding the interview, and the medical history period is defined as the time between first entry into HIV care and the start of the surveillance period. Due to lower than anticipated response rates, the 2009 MMP data were not weighted to provide a representative sample of the whole state, and the results may not be generalizable to the entire HIV-positive population in Michigan. For more about MMP, please visit www.michigan.gov/mmp.

Communicable Disease Surveillance

Michigan Disease Surveillance System (MDSS): TB Data (1992–present)

The MDCH HBTB Section conducts statewide surveillance of cases of tuberculosis. All TB cases reported in the State of Michigan are reported using the CDC Report of a Verified Case of Tuberculosis (RVCT) form. Until December 2007, surveillance information and laboratory reports on active and suspect TB cases were maintained and reported to CDC in the Tuberculosis Information Management System (TIMS) database. Beginning in January, 2008, data have been managed in the Michigan Disease Surveillance System (MDSS). Surveillance data are analyzed to monitor statewide tuberculosis trends, including HIV/TB co-infection, as well as to determine appropriate treatment regimen, drug susceptibility results, and completion of TB therapy status. Each year, the TB registry is matched to the HIV surveillance database. Outcomes from the match include documenting progression from HIV to stage 3 infection (AIDS), completing TB infections reported directly to HIV surveillance, and, occasionally, identifying new HIV cases.

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Michigan Disease Surveillance System (MDSS): STD Data (2004—present)

The MDCH Division of STD and HIV Prevention conducts statewide surveillance to determine the number of reported cases of STDs, monitor trends, provide partner counseling, and referral services for examination and treatment. All of these objectives aim at reducing the spread of STDs in the community. In Michigan, gonorrhea, chlamydia, syphilis, lymphogranuloma venereum, chancroid, and granuloma inguinale are reportable by physicians and laboratories. There are significant variations in the completeness of data coming from public and private providers. Approximately 88 percent of female cases and 73 percent of male cases come from private providers. Among public providers, only 16 percent of race data is missing, however, 42 percent of race data is missing in reports from private providers. Chlamydia is the most frequently reported of all reportable communicable diseases in Michigan, while gonorrhea is the second most frequently reported. Michigan collects gender of sex of partner for syphilis cases, and will begin collecting this for gonorrhea cases in 2014. Sex of partner is not collected for chlamydia cases. For data on STD cases in Michigan, by age and sex, please refer to <http://www.mdch.state.mi.us/pha/osr/Index.asp?Id=12>

Michigan Disease Surveillance System (MDSS): Hepatitis C Data (1992—present)

The MDCH Division of Communicable Diseases requires physicians, health care professionals, and laboratories to report cases of communicable diseases, including acute and chronic hepatitis C, in accordance with Michigan's Communicable Disease Rules. Cases of hepatitis C are reported to MDCH via the Michigan Disease Surveillance System (MDSS), a web-based communicable disease reporting system developed for the state of Michigan. MDSS collects basic demographic data on each case, as well as additional information such as laboratory test results, clinical information and exposure history, but completeness of reporting of the additional information varies. Since acute and chronic hepatitis C infections are often asymptomatic and can remain undetected and unreported for years, the number of reported cases is less than the actual number of hepatitis C cases in Michigan.

Behavioral Surveys

National HIV Behavioral Surveillance (NHBS) (2005—present)

The National HIV Behavioral Surveillance program is a CDC funded project that monitors risk behaviors and access to HIV prevention services among three identified risk groups at a national and local level. Data collection is implemented in annual cycles with each cycle focusing on one risk group, i.e., men who have sex with men (MSM), injection drug users (IDU), and heterosexuals (HET) living in targeted areas. This project is different from all other HIV surveillance activities in that it collects data from people based on behavioral and/or residential characteristics and not their HIV status; thus, most interviewees are uninfected. In 2005, Michigan's HIV Surveillance Program participated in the IDU cycle of NHBS Round 1, interviewing IDUs in the City of Detroit. A pilot for the HET cycle was also performed in 2005, with the full HET cycle 1 being performed in the Detroit Metro Area in 2006. At this time, a supplementary Partner Study was also performed in which information was gathered from participants' partners. These data were analyzed to determine the degree of risk that females perceive for themselves compared to the actual behaviors reported by their male partners. The 2nd round of NHBS was started in 2008, in which the MSM2 cycle was implemented in Wayne County. Injection drug users

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Injection drug users (IDU2) and heterosexuals at increased risk for HIV (HET2) were completed in 2009 and 2010, respectively. NHBS Round 3 was implemented in 2011 beginning with men who have sex with men (MSM3) followed by injection drug users (IDU3) in 2012, followed by heterosexuals at increased risk for HIV (HET3) in 2013. Completed NHBS data reports are posted on the MDCH HIV/STD/Hepatitis website: www.michigan.gov/hivstd.

Michigan Birthing Hospital Assessment (2007-2010)

From 2007-2010, MDCH's Perinatal Hepatitis B Prevention Program (PHBPP) conducted an assessment of hepatitis B, syphilis, and HIV screening in Michigan birthing hospitals. The assessment, funded through the Centers for Disease Control and Prevention (CDC), included a survey of Michigan's 91 birthing hospitals in 2007; a follow-up survey of Michigan's 81 birthing hospitals in 2010; and review of 5,711 paired maternal-infant medical records from 91 birthing hospitals across the state.

Youth Risk Behavior Survey (YRBS) (2013)

The Youth Risk Behavior Survey (YRBS) is conducted every other year in Michigan by the Department of Education and assesses a broad range of health practices among a representative sample of the state's students in grades nine through 12. Data are weighted so that survey results can be generalized to all high school students in the state. Michigan is one of only a few states with high enough response rates on nine consecutive YRBS survey administrations (1997, 1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013) to have scientific trend data spanning 16 years. The YRBS collects information on six categories of behaviors related to the leading causes of mortality and morbidity among both youth and adults. Sexual behaviors that contribute to unintended pregnancies and STDs, including HIV infection, constitute one of the six categories. Questions in this category ask about HIV prevention education, sexual activity (age at initiation, number of partners, condom use, past drug or alcohol use, forced sex, sex of sexual partner), and contraceptive use. The YRBS is a standardized questionnaire, so comparisons can be made between states, participating cities, and the nation on core questions. States and cities may also add questions of local interest. Michigan added a question about sexual orientation for the first time in 2013. Because the YRBS relies upon self-reported information, sensitive behavioral information may be under-reported or over-reported. Also, because the YRBS questionnaire is administered in schools, the data are representative only of adolescents who are enrolled in school and cannot be generalized to all adolescents. For example, students at highest risk, who may be more likely to be absent from school or to drop out of school, may be underrepresented in this survey, especially those in upper grades. For more about the Michigan YRBS, go to www.michigan.gov/yrbs.

Community Health Awareness Group/Michigan AIDS Coalition Focus Groups - Young Transgender Women of Color (March 2012)

Between March and May 2012, Community Health Awareness Group (CHAG), in collaboration with the Michigan AIDS Coalition (MAC), conducted a series of focus groups targeting young transgender women of color. The purpose of these groups was to gather additional information to further inform the implementation of the agency's new Centers for Disease Control and Prevention (CDC)-funded project. The women were brought together to talk about those behaviors that place them at risk for HIV and the hepatitis C virus (HCV) and to discuss their experiences and expectations of health care accessed in the Detroit Metro Area.

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Service Utilization Data

Michigan Ryan White Program: CAREWare (2013)

The Ryan White Comprehensive AIDS Resources Emergency (CARE) Act was first enacted in 1990 to provide federal funds to help communities and states increase the availability of health care and supportive services for people living with HIV (PLWH). In 2006, the CARE Act was replaced by the Ryan White HIV/AIDS Treatment Modernization Act (Ryan White), which was reauthorized in 2009 as the Ryan White Treatment Extension Act. Under this legislation, Part A funds are allocated to Eligible Metropolitan Areas heavily impacted by the epidemic (e.g., Detroit), while Part B, including the AIDS Drug Assistance Program (ADAP) earmark, provides resources to States and U.S. Territories. Ryan White Part C resources fund outpatient HIV early intervention services at local health care facilities and clinics. Part D is used to coordinate and enhance services for women, infants, children and youth. Ryan White HIV/AIDS Program resources are funds of last resort.

The services supported by Ryan White funds vary by jurisdiction but include health care services such as out-patient ambulatory medical care, medications, medical case management, mental health services, and supportive services that link PLWH to care (e.g., transportation). The Michigan Department of Community Health (MDCH), Division of Health, Wellness and Disease Control (DHWDC), HIV Care Section, is the Grantee for the Part B, ADAP, and Part D resources allocated to Michigan. The City of Detroit Department of Health and Wellness Promotion (DHWP) is the Part A Grantee designee. There were four Part C funded programs in Michigan in 2013: Wayne State University's Adult HIV/AIDS Clinic at the Detroit Medical Center, the Detroit Community Health Connection, the University of Michigan's HIV/AIDS Treatment Program in Ann Arbor, and Saint Mary's Health Care Special Immunology Services in Grand Rapids.

The Uniform Reporting System (URS) is a statewide client-level data standard designed to consistently document the quantity and types of services provided by agencies receiving Ryan White funds and describe the populations receiving services. The URS standards were originally developed by the Health Resources Services Administration (HRSA) and were implemented in Michigan beginning in 1994 as a demonstration project.

CAREWare, the software program developed by HRSA to collect and report URS data, is the program used by all Ryan White programs in Michigan. There are currently four separate CAREWare databases. The MDCH CAREWare system includes all the Part B- and Part D-funded programs, as well as data from two Part C-funded programs and from programs funded through the Michigan Health Initiative (MHI). DHWP maintains another CAREWare database for Part A-funded programs. MDCH and DHWP each implemented CAREWare as a centralized database accessed by service providers through a secure internet portal. Two Part C programs, the University of Michigan and the Detroit Community Health Connection each maintain their own individual CAREWare systems. Clients and services from ADAP and the Michigan Dental Program (MDP) are imported into the MDCH CAREWare database from other data systems on a regular basis.

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HIV Prevention Data

Testing Data: HES (2013)

The HIV Event System (HES) is a web-based open source system used by the MDCH HIV Prevention Unit to track the delivery of HIV prevention services (counseling, testing, referral, outreach, education, partner services, and training). The goal of the HES is to provide data to better monitor and strengthen HIV prevention activities. HES tabulates data to contribute to monitoring and evaluating HIV prevention programs and allows service providers to respond to local, state and federal funding requirements. The system provides data essential to evaluate each program's effectiveness, thus improving prevention services. There are four main reporting and tracking categories: Health Education, Provider Education, Counseling Testing and Referral, and Partner Services. This system provides the same functionality as the CDC's Program Evaluation Management System (PEMS), and more.

Vital Statistics Data

Birth and Death Data

The National Center for Health Statistics receives information on births and deaths in the United States through a program of voluntary cooperation with state government agencies (i.e., state departments of health, state offices of vital statistics) called the Vital Statistics Cooperative Program. States use standard forms to collect birth and death data. The birth certificate form includes demographic information on the newborn and the parents, insurance status, prenatal care, prenatal risk factors, maternal morbidity, mode of delivery, pregnancy history, and clinical characteristics of the newborn. Death certificates include demographics, underlying causes of death, and contributions of selected factors to the death (i.e., smoking, accident, or injury) of all deceased persons. Reporting is virtually 100 percent complete for births and deaths. Therefore, inferences can be made concerning the number of live births in a service area. The data can also be used to determine the effect of deaths related to HIV infection in a service area. Birth certificate data are obtained from patient medical records (i.e., smoking history, morbidity), which may be incomplete. In addition, deaths resulting from HIV, or whose underlying cause was HIV infection, may be underreported on death certificates. Clinical information related to HIV infection may be missing.

Population Data

U.S. Bureau of the Census (Census Bureau) (2012)

The Census Bureau collects and provides timely information about the people and economy of the United States every 10 years. Between those years, the Bureau releases annual population estimates. The Census Bureau's recently updated website (<http://www.census.gov/popest/>) includes data on demographic characteristics (e.g., age, race, Hispanic ethnicity, sex) of the population, family structure, educational attainment, income level/employment status, housing status, and the proportion of persons who live at or below the Federal Poverty Level (FPL). Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, age, race, family structure, and apportionment. State- and county-specific data are easily accessible, and links to other web sites with census information are included. All Michigan-specific census data used in this document are data from the 2012 population estimates unless otherwise noted.

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Sociodemographic Description of the Michigan Population

Population:

According to the 2012 Population Estimates, Michigan has the 9th largest population in the United States with a total of 9,883,360 persons. Michigan is composed of 83 counties. County populations range from a low of 2,215 persons in Keweenaw County to 1.8 million persons in Wayne County. The Detroit Metropolitan Area (DMA) (Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties) represents 43 percent of Michigan's population. Michigan cities with populations over 100,000, in order of descending population, are Detroit, Grand Rapids, Warren, Sterling Heights, Lansing, Ann Arbor, and Flint, with populations ranging from 701,475 to 100,515. Fifteen of Michigan's 20 most populous cities experienced a decrease in population between the 2000 and 2010 Census.

Local health jurisdiction structure:

Michigan is divided into 45 local health departments (LHDs) (see map on page 18). Since many counties of Michigan have low population density, some district LHDs are composed of multiple counties. These multi-county LHDs each contain two to 10 counties and can deliver services more efficiently than single county LHDs in rural areas. LHD activities include clinical services for family planning, STD screening and treatment, maternal and child health services, special health care services for children, nutrition programs, and immunizations. Services also include sanitation, environmental monitoring, and epidemiologic investigations.

Age and sex:

According to the 2012 Population Estimates, the median age of Michigan residents is 39 years, 1 year older than the median age in the 2010 Census. Six percent of the population is under 5 years of age; 33 percent are younger than 24 years of age; and 15 percent of the population are 65 or older. The largest proportion of individuals is 45-64 years of age. The proportion of males in the overall population is lower than the proportion of females (49 vs. 51 percent, respectively). Table 1 shows the percent distribution of each age group broken down by sex. Proportions in each age group are similar between males and females. A larger proportion of females are 65 years of age and older than are males (16 percent vs. 13 percent, respectively). There has been very little estimated change in any sex/age group since the 2010 Census.

Table 1: Age and sex distribution of the Michigan population, 2012

Age (years)	Male % (N = 4,850,511)	Female % (N = 5,032,849)	Total Population % (N = 9,883,360)
< 5	6	6	6
5–14	13	12	13
15–24	15	14	14
25–44	25	24	24
45–64	28	28	28
65 and older	13	16	15

Source. State Population Estimates 2012, US Census Bureau

Note: Percentages may not add to 100 percent due to rounding.

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Sociodemographic Description of the Michigan Population

Demographic composition:

According to the 2012 Population Estimates, the racial and ethnic composition of the state is 76 percent white, non-Hispanic; 14 percent black, non-Hispanic; five percent Hispanic; three percent Asian/Native Hawaiian or Other Pacific Islander; one percent American Indian/Alaska Native; and two percent multiracial or other race (table 2). Proportions of each racial/ethnic group are similar between males and females. There was little change in any racial or ethnic group between the 2010 Census and the 2012 population estimates.

Table 2: Race/ethnicity and sex distribution of the Michigan population, 2012

	Male % (N = 4,850,511)	Female % (N = 5,032,849)	Total Population % (N = 9,883,360)
White, non-Hispanic	77	76	76
Black, non-Hispanic	14	14	14
Hispanic, all races	5	4	5
Asian/Native Hawaiian or Other Pacific Islander	3	3	3
American Indian/Alaska Native	1	1	1
Multiracial/Other	2	2	2

Source. State Population Estimates 2012, US Census Bureau

Note: Percentages may not add to 100 percent due to rounding.

When broken down by geographic area, the racial/ethnic distribution of Michigan changes (table 3). In the Detroit Metro Area, non-Hispanic white persons make up 67 percent of the population compared to 83 percent in Out-State Michigan. The largest difference between the two areas of Michigan is among non-Hispanic black persons, who make up 23 percent of the population in the Detroit Metro Area and only seven percent in Out-State Michigan. All other racial/ethnic groups (Hispanic, Asian/Native Hawaiian or Other Pacific Islander, American Indian/Alaska Native, and multiracial persons/persons of other race) have relatively equal representation throughout the state, although persons of other race make up a slightly higher proportion of the population in Out-State Michigan. The percent distributions of racial/ethnic groups by sex are relatively equal in both areas.

2014 Profile of HIV in Michigan (Statewide)

Sociodemographic Description of the Michigan Population

Table 3: Race/ethnicity and sex distribution of the Michigan population, by geographic area, 2012

Detroit Metro Area	Male %	Female %	Total population %
<i>Race/Ethnicity</i>	(N = 2,064,378)	(N = 2,195,892)	(N = 4,260,270)
White, non-Hispanic	68	66	67
Black, non-Hispanic	22	24	23
Hispanic, all races	4	4	4
Other	6	6	6
Out-State Michigan	Male %	Female %	Total population %
<i>Race/Ethnicity</i>	(N = 2,786,133)	(N = 2,836,957)	(N = 5,623,090)
White, non-Hispanic	83	84	83
Black, non-Hispanic	8	7	7
Hispanic, all races	5	5	5
Other	5	5	5

Source. State Population Estimates 2012, US Census Bureau

Note: Percentages may not add to 100 percent due to rounding.

Poverty, income, employment, and insurance¹:

In 2012, the median household income in Michigan was estimated to be \$46,859, compared to the United States median income of \$51,371. About 17 percent of Michigan residents' yearly incomes fell below the Federal Poverty Level (FPL), compared to 16 percent of all persons in the United States. Among persons under 18 years of age, 25 percent had family incomes that fell below the FPL in Michigan compared to 23 percent nationally. Eleven percent of Michigan residents were unemployed in 2012 compared to 9.4 percent of all persons in the US.

In 2012, 11 percent of Michigan residents did not have health insurance. Four percent of Michigan residents under 18 years of age were uninsured. These proportions are slightly lower than those seen nationally.

1. Data from US Census Bureau unless otherwise noted.

2014 Profile of HIV in Michigan (Statewide)

Summary of the HIV Epidemic in Michigan

Data from enhanced HIV/AIDS Reporting System (eHARS)

How many cases?

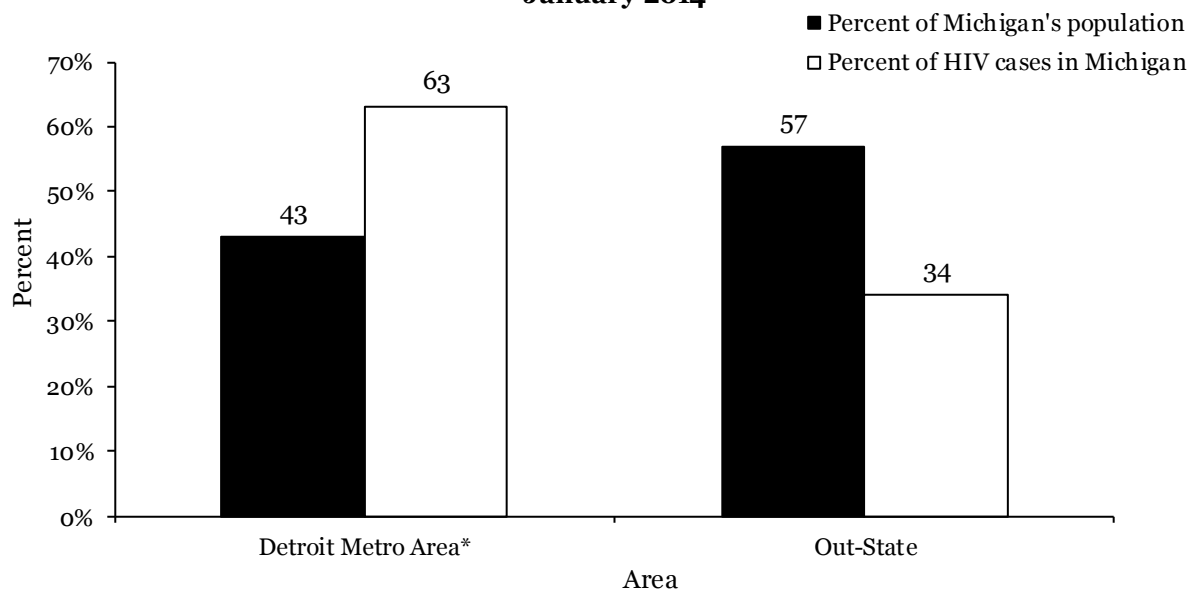
The Michigan Department of Community Health (MDCH) estimates that there are 21,300 persons currently living with HIV in the state of Michigan, of whom 16,750 were reported as of January 1, 2014 (table 8, page 112). Estimates are based on reported cases diagnosed with HIV infection while residents of Michigan, regardless of current residence, which is the national standard established by the CDC. The number and rate of new HIV diagnoses remained stable in Michigan between 2008 and 2012, with an average of 809 new cases each year and an average rate of 8.2 cases per 100,000 population (See pages v-vi for information on *2014 Annual Review of HIV Trends in Michigan*). Despite a stable number of new diagnoses each year, there are more new diagnoses of HIV infection than deaths. As a result, the reported number of persons living with HIV infection in Michigan is increasing.



How are the cases geographically distributed?

HIV infections are distributed disproportionately in Michigan. Sixty-three percent of those living with HIV reside in the Detroit Metro Area (DMA) (10,545 of the 16,750 reported cases currently living in Michigan), but the DMA has only 43 percent of the general population (figure 1). The rest of the state has 34 percent of Michigan HIV cases but 57 percent of the population. The number of new diagnoses remained stable in both geographic areas between 2008 and 2012 (Trends).

Figure 1: Michigan living HIV infection cases and population by area, January 2014



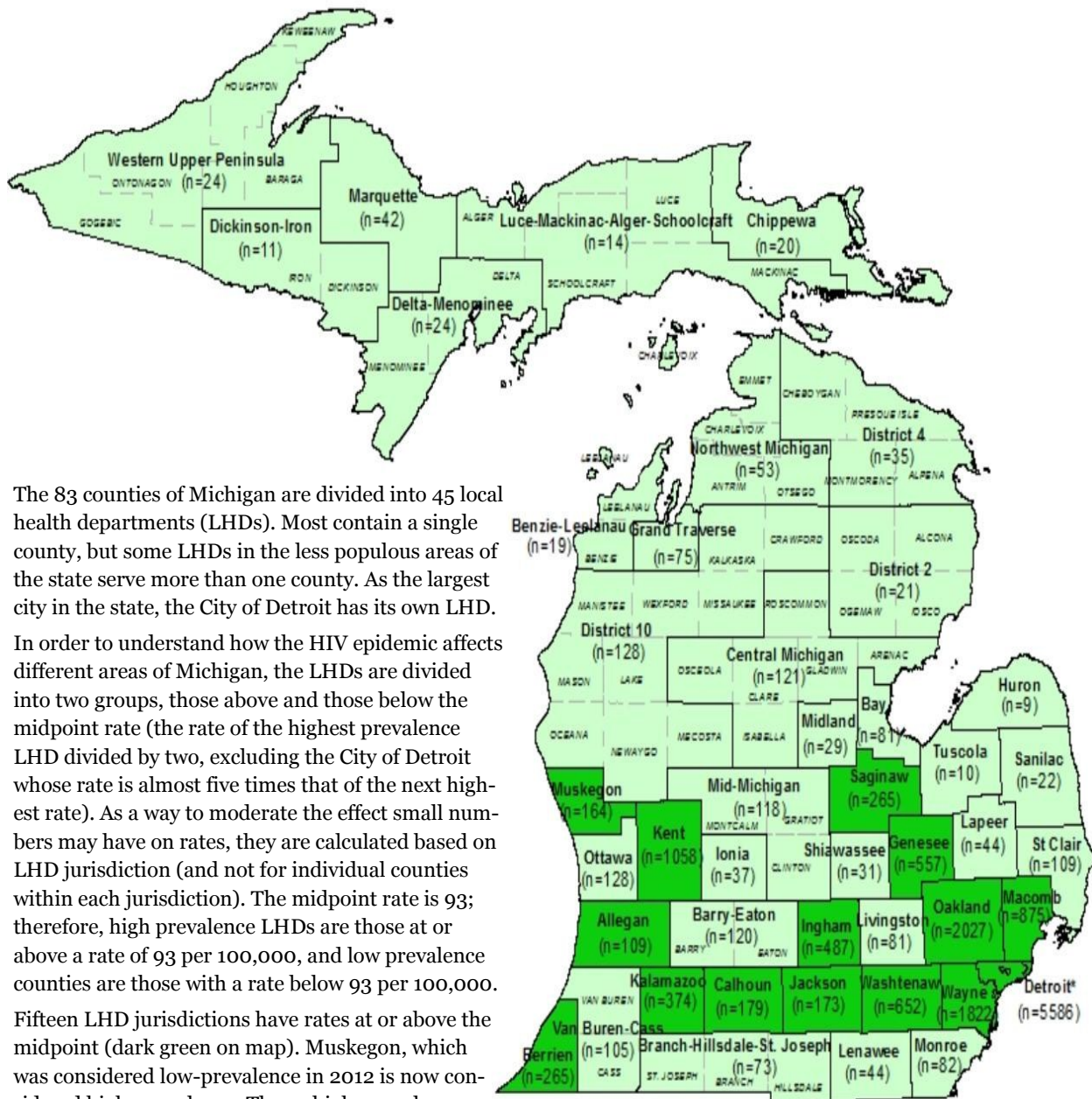
*Detroit Metro Area includes the City of Detroit, Lapeer County, Macomb County, Monroe County, Oakland County, St. Clair County, and Wayne County.

2014 Profile of HIV in Michigan (Statewide)

Distribution of HIV Cases by Local Health Department Jurisdiction

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 2: Reported Prevalence count by local health department jurisdiction, January 2014



The 83 counties of Michigan are divided into 45 local health departments (LHDs). Most contain a single county, but some LHDs in the less populous areas of the state serve more than one county. As the largest city in the state, the City of Detroit has its own LHD.

In order to understand how the HIV epidemic affects different areas of Michigan, the LHDs are divided into two groups, those above and those below the midpoint rate (the rate of the highest prevalence LHD divided by two, excluding the City of Detroit whose rate is almost five times that of the next highest rate). As a way to moderate the effect small numbers may have on rates, they are calculated based on LHD jurisdiction (and not for individual counties within each jurisdiction). The midpoint rate is 93; therefore, high prevalence LHDs are those at or above a rate of 93 per 100,000, and low prevalence counties are those with a rate below 93 per 100,000.

Fifteen LHD jurisdictions have rates at or above the midpoint (dark green on map). Muskegon, which was considered low-prevalence in 2012 is now considered high-prevalence. The 15 high-prevalence LHDs account for 87 percent of Michigan HIV cases but just 68 percent of Michigan's population. The city of Detroit, Washtenaw, Ingham, and Wayne (excluding the city of Detroit) LHDs have the highest rates at 796, 186, 173, and 167 cases per 100,000, respectively.

2014 Profile of HIV in Michigan (Statewide)

Recommendations: Ranking of Behavioral Groups

Data from enhanced HIV/AIDS Reporting System (eHARS)

To assist in prioritizing prevention activities, the MDCH HIV/STD/VH/TB Epidemiology Section ranks the three behavioral groups most at risk for HIV infection in Michigan. The guiding question used in this process is, “In which populations can strategies prevent the most infections from occurring?” Effectively reducing transmission in populations where most of the HIV transmission is taking place will have the greatest impact on the overall epidemic. The percentage of cases for each behavioral group and trends over time were used to determine the ranked order of the following three behavioral groups: MSM, heterosexuals, and IDU.

- **Men who have sex with men (MSM)*:** MSM make up 52 percent of all reported cases of HIV currently living in Michigan (8,639 out of 16,750 cases) (table 8, page 101). The MSM behavioral group continues to be the most affected behavioral group statewide. Between 2008 and 2012, the number of new diagnoses among MSM remained stable with an average of 444 new cases each year. Although the number of new MSM cases did not increase, the majority of new cases in this behavioral group continue to be among black MSM (Trends).
- **Heterosexuals:** Heterosexual cases constitute 18 percent of the total number of reported cases (3,037 out of 16,750 cases) currently living in Michigan (table 8). This behavioral group is comprised of males who had sex with females known to be at risk for HIV (heterosexual contact with female with known risk, HCFR) and females who had sex with males, regardless of what is known about the male partners' risk behaviors (heterosexual contact with male, HCM). HCFR is more completely defined as males who had sex with females known to be IDU, recipients of HIV-infected blood products, or HIV-positive persons. See the glossary in appendix A, page 233, for further description of the heterosexual risk transmission category. Seventy-eight percent of all heterosexual cases are among females. The number of new HIV diagnoses in persons with heterosexual transmission remained stable between 2008 and 2012. This is the first of four consecutive trend analyses not to show significant decreases in new diagnoses among persons with heterosexual risk (Trends).
- **Injection drug users (IDU)*:** Of all reported cases of HIV currently living in Michigan, nine percent are IDU (1,424 out of 16,750 cases), a five percent decrease since the 2012 Profile (table 8). The number of new HIV diagnoses among IDU remained stable between 2008 and 2012 with an average of 31 new cases each year. This is the first of eight consecutive trend analyses not to show significant decreases in new HIV diagnoses among IDU (Trends).

*Both MSM and IDU numbers and percentages include persons with a dual risk of MSM/IDU.

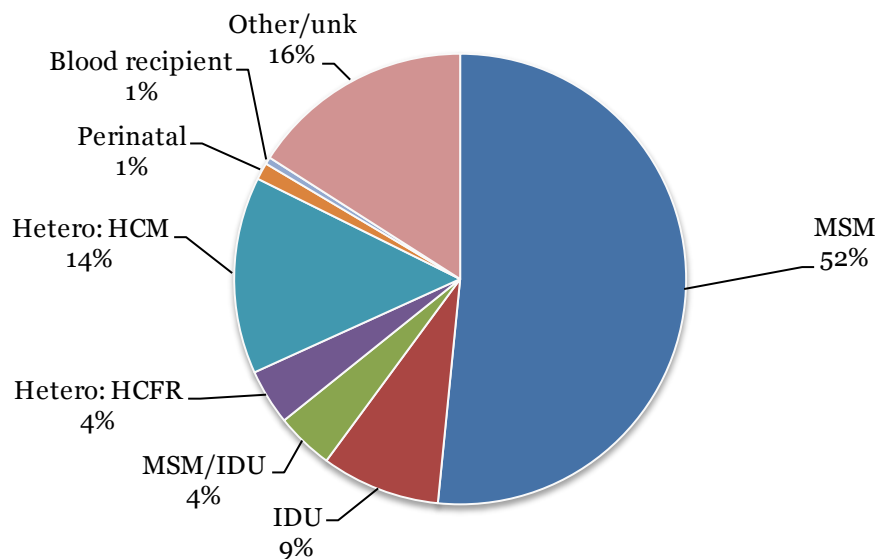
2014 Profile of HIV in Michigan (Statewide)

Distribution of Living HIV Cases by Risk Transmission Category

Data from enhanced HIV/AIDS Reporting System (eHARS)

Although case reporting includes ascertainment of multiple behaviors associated with HIV transmission, current surveillance methods cannot determine the specific route of HIV transmission in persons who have engaged in more than one risk behavior. For the purposes of analysis and interpretation, cases are assigned to a risk hierarchy designated by the Centers for Disease Control and Prevention (CDC). The hierarchy is intended to account for the efficiency of HIV transmission associated with each behavior, along with the probability of exposure to an infected person within the population. The adult/adolescent categories, in order, are as follows: (1) men who have sex with men (MSM); (2) injection drug users (IDU); (3) men who have sex with men and inject drugs (MSM/IDU); (4) hemophilia/coagulation disorders; (5) heterosexual contact (HC); (6) receipt of HIV-infected blood or blood components; and (7) no identified risk (NIR). Figure 3 shows the distribution of risk for all persons currently living with HIV in Michigan as of January 2014 (data also found on table 8, page 112). Risk cate-

Figure 3: HIV infection cases currently living in Michigan by risk transmission category, January 2014 (N = 16,750)



- Over half (56 percent) of persons currently living with HIV in Michigan are men who have sex with men (MSM), including four percent who also inject drugs (MSM/IDU).
- Eighteen percent have a risk of heterosexual sex, 14 percent of whom are females who had sex with males (HCM) and four percent of whom are males who had sex with females with known risk (HCFR).
- Thirteen percent are injection drug users (IDU), including four percent who are also MSM (MSM/IDU).
- Two percent are other known risk, including perinatal transmission and receipt of HIV-infected blood products.
- Sixteen percent have unknown risk, which includes males who had sex with females of unknown risk.

2014 Profile of HIV in Michigan (Statewide)

Distribution of Living HIV Cases by Exposure Category

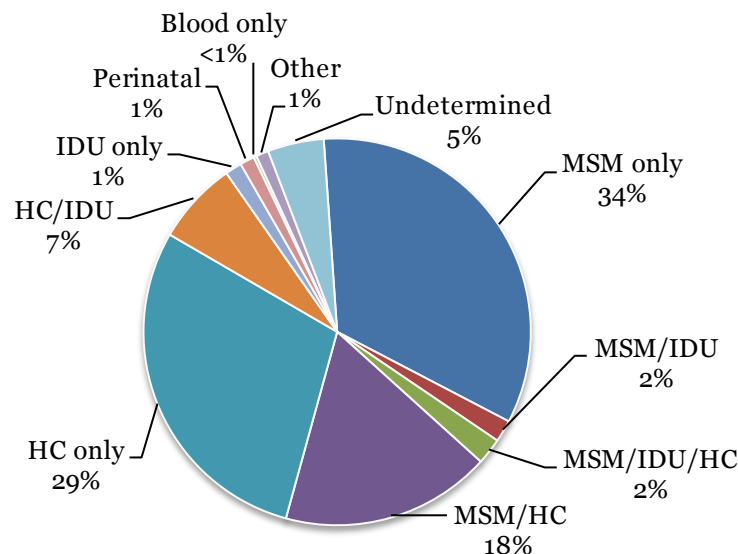
Data from enhanced HIV/AIDS Reporting System (eHARS)

When the risk transmission categories were created, the hierarchy was based on what was known at the beginning of the epidemic about how HIV was transmitted, when almost all cases were among males and there was little documented heterosexual transmission. Since then, the hierarchy has not changed, even though our understanding of the most efficient HIV transmission routes has. Additionally, concerns have been raised that use of hierarchical categories masks the identification of multiple risks that a person may have. For this reason, Michigan also presents exposure categories, which convey all known modes of HIV exposure. Like the traditional risk transmission categories, the exposure categories are mutually exclusive, meaning that each case is included in only one category. Exposure categories, however, allow readers to see all the reported ways in which a person may have been exposed to HIV without stating definitively how the person was infected. Please see the glossary in appendix A (page 233) for more detailed definitions of exposure categories.

It is important to note that in the exposure categories, unlike the risk transmission categories, males are counted in the heterosexual contact (HC) category regardless of what is known about their female partners' risk behaviors. This results in an increased proportion of persons in the HC category.

Figure 4 below shows the distribution of exposures among HIV-positive persons currently living in Michigan as of January 2012 (data also found on table 10, page 115).

Figure 4: HIV infection cases currently living in Michigan by exposure category, January 2014 (N = 16,750)



- While over half of all prevalent HIV cases are classified as men who have sex with men (MSM) in the risk transmission hierarchy, twenty percent report sex with both males and females (MSM/HC and MSM/HC/IDU).
- Almost all injection drug users (IDU) reported additional risk behaviors, including seven percent reporting heterosexual contact (HC/IDU) and two percent reporting both heterosexual contact and male-male sex (MSM/IDU/HC).

2014 Profile of HIV in Michigan (Statewide)

Distribution of Living HIV Cases by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figures 5 and 6 show the impact of the HIV epidemic on six race/sex groups. Data can also be found on table 8, page 112.

Figure 5: Estimated prevalence of persons living with HIV in Michigan by race and sex, January 2014

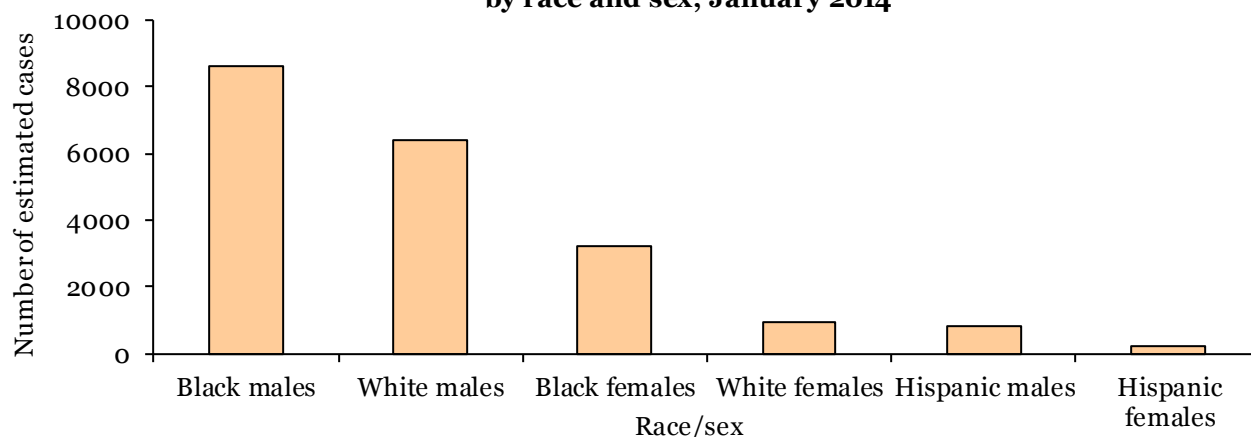
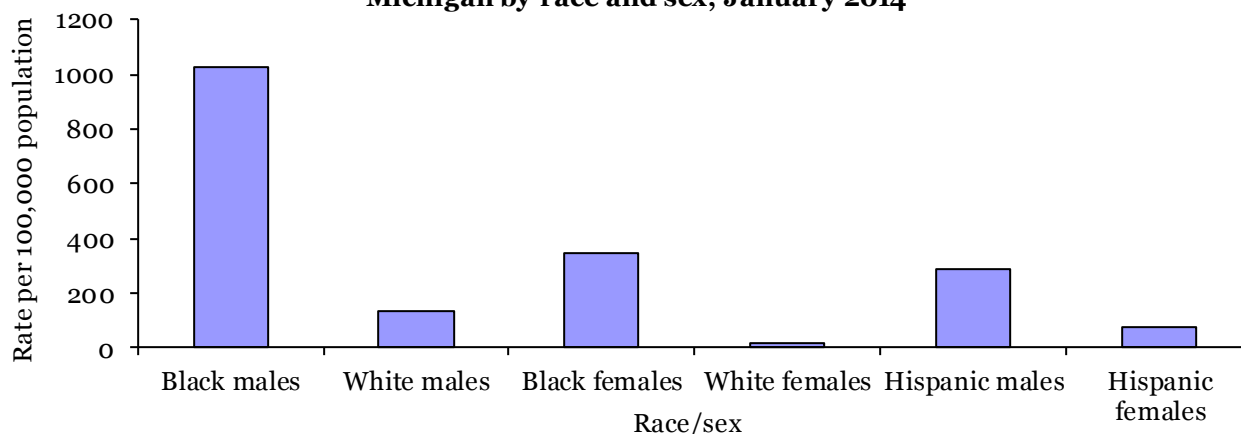


Figure 6: Reported prevalence rate of persons living with HIV in Michigan by race and sex, January 2014



- Black males have both the highest rate per 100,000 (1,028) and the highest estimated number (8,600) of HIV cases. This high rate means the impact of the epidemic is greatest on this demographic group.
- Black females have the second highest rate (348) and the third highest estimated number (3,220) of cases of HIV.
- Hispanic males have the third highest rate (289) and the fifth highest estimated number (850) of cases. This indicates the impact of the epidemic is high on a relatively small demographic group.
- White males have the fourth highest rate (136) and the second highest estimated number (6,430) of cases.
- Hispanic females have the fifth highest rate (78) and the lowest estimated number (220) of cases.
- White females have the lowest rate (19) and the third lowest estimated number (930) of HIV cases.

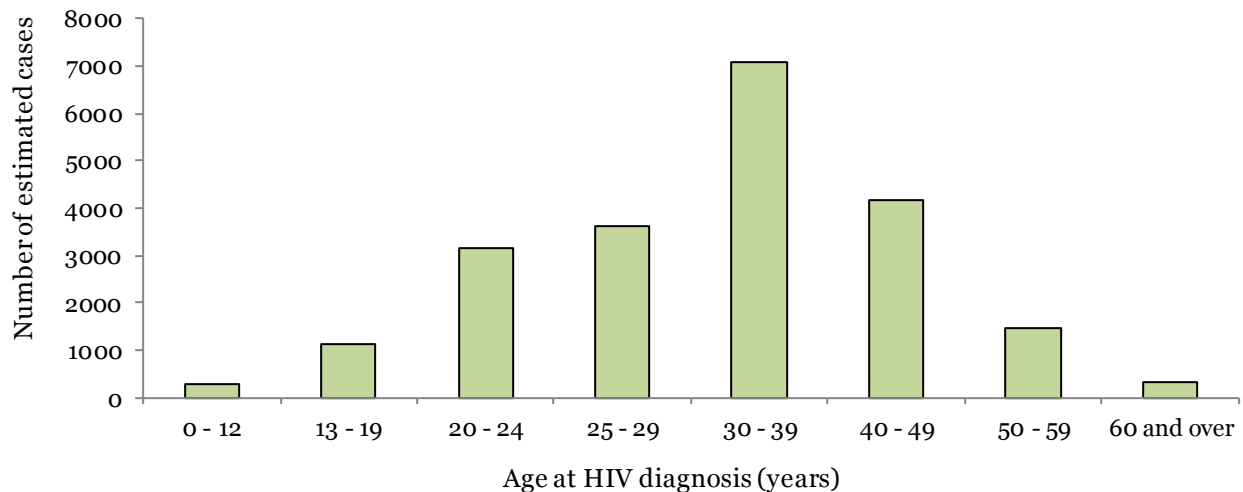
2014 Profile of HIV in Michigan (Statewide)

Distribution of Living HIV Cases by Age at Diagnosis

Data from enhanced HIV/AIDS Reporting System (eHARS)

- Figures 7 shows the breakdown of prevalent cases by age at diagnosis. Data can also be found on table 8, page 112.

Figure 7: Estimated prevalence of persons living with HIV in Michigan by age at diagnosis, January 2014



- The majority of all prevalent cases (an estimated 7,070) were 30-39 years old at the time of diagnosis.
- The next highest number of estimated cases is among persons 40-49 years at diagnosis followed closely by 25-29 year olds (4,180 vs. 3,610, respectively).
- The smallest number of estimated cases is among individuals diagnosed between the ages of 0 and 12 years, followed by individuals diagnosed at 60 years and older (300 vs. 340, respectively).
- There were an estimated 10 cases with unknown age at diagnosis not included in this figure.

2014 Profile of HIV in Michigan (Statewide)

Trends in HIV Data

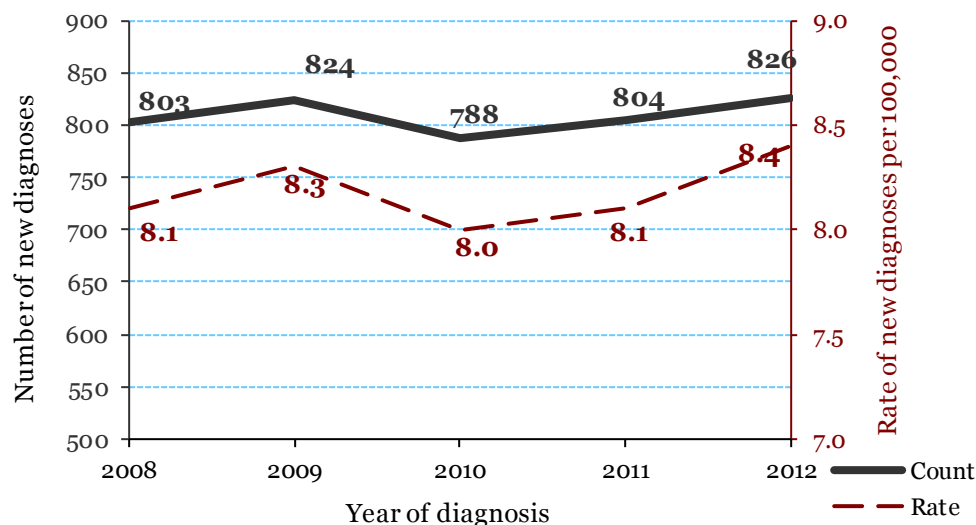
Data from enhanced HIV/AIDS Reporting System (eHARS)

To evaluate recent trends in new HIV diagnoses in Michigan, we estimated the number of persons newly diagnosed with HIV infection each year by adjusting the number of reported cases diagnosed between 2008 and 2012. This adjustment was applied to account for cases that may not have been reported to the health department by January 1, 2014. The adjustments were calculated by weighting the data. Please see the forward (pages v-vi) for an in-depth description of the methods used to evaluate trends. The full Trends documents can be found by visiting the following link: http://www.michigan.gov/documents/mdch/MIRreport14_456013_7.pdf.

New diagnoses of HIV, 2008-2012:

The number and rate of new HIV diagnoses remained stable in Michigan between 2008 and 2012, with an average of 809 new cases each year (8.2 cases per 100,000 population) (figure 8).

Figure 8: Adjusted number and rate of new HIV diagnoses in Michigan, 2008-2012



New diagnoses by risk, 2008-2012:

Between 2008 and 2012, the number of newly diagnosed persons did not increase or decrease significantly for any risk transmission group. This was the first time a decrease in new diagnoses among IDU has not been seen since we began analyzing trends in 2001. Data from Michigan's HIV Behavioral Surveillance suggest previous reductions of HIV among IDU may be partly attributable to the success of harm reduction programs. In the past five trend reports a decrease in new diagnoses among persons with heterosexual risk was noted. This is the first time we did not see a decrease.

The "other known" risk category includes perinatal and blood product transmission. The numbers have been low in this group for many years due to programmatic successes in preventing perinatal and blood-borne transmissions.

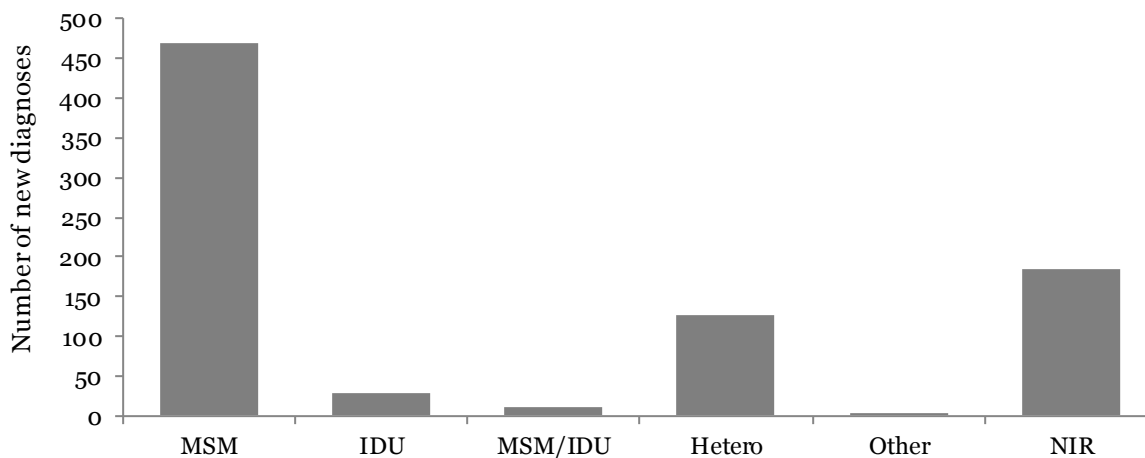
Newly diagnosed persons with no identified risk (NIR) includes males who reported sex with females of unknown risk/HIV status as their only risk and males and females for whom no risk has yet been reported. This group accounts for an average of 21 percent of new diagnoses each year (Trends) but only 16 percent of all persons currently living with HIV in Michigan (regardless of year of diagnosis) (table 8, page 112).

2014 Profile of HIV in Michigan (Statewide)

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

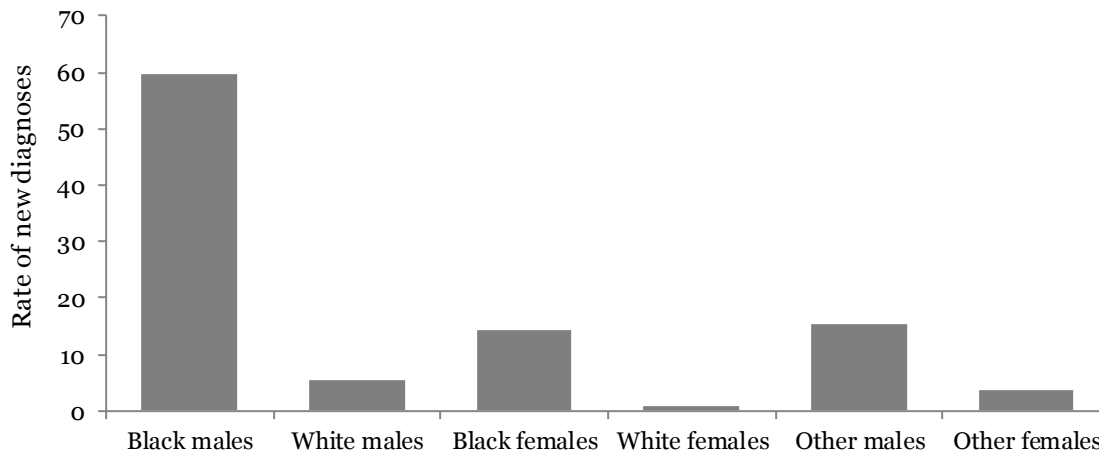
Figure 9: Adjusted number of new HIV diagnoses in Michigan in 2012 and trends between 2008-2012, by risk transmission category



New diagnoses by race and sex, 2008-2012:

Rates among all race/sex groups were stable for the first report since we began analyzing trends in 2001. The rate of new diagnoses remained highest among black persons of both sexes compared to all other race/sex groups. In 2012, the rate among black males was almost 11 times that of white males, and the rate among black females was 18 times that of white females. These disparities have persisted since we began analyzing trends.

Figure 10: Adjusted rate of new HIV diagnoses in Michigan in 2012 and trends between 2008-2012, by race/sex



2014 Profile of HIV in Michigan (Statewide)

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

New diagnoses by age at HIV diagnosis, 2008-2012:

The rate of new HIV diagnoses increased significantly among persons 20-24 years of age at diagnosis (an average nine percent per year) (figure 11). For the third report of the past seven annual trend reports, the rate did not increase among those 13-19 years of age at diagnosis. This is the fourth consecutive report, however, showing increases among 20-24 year olds. Almost three quarters of teen and young adult cases (ages 13-24 years) combined are residents of the Detroit Metro Area (DMA). Of these cases, 61 percent were residents of the City of Detroit. Although the majority of prevalent cases are still among persons 30-39 years at diagnosis (figure 8, page 24), 20-24 year olds now have the highest rate of new diagnoses of any age group.

Figure 11: Adjusted rate of new HIV diagnoses in Michigan in 2012 and trends between 2008-2012, by age at diagnosis

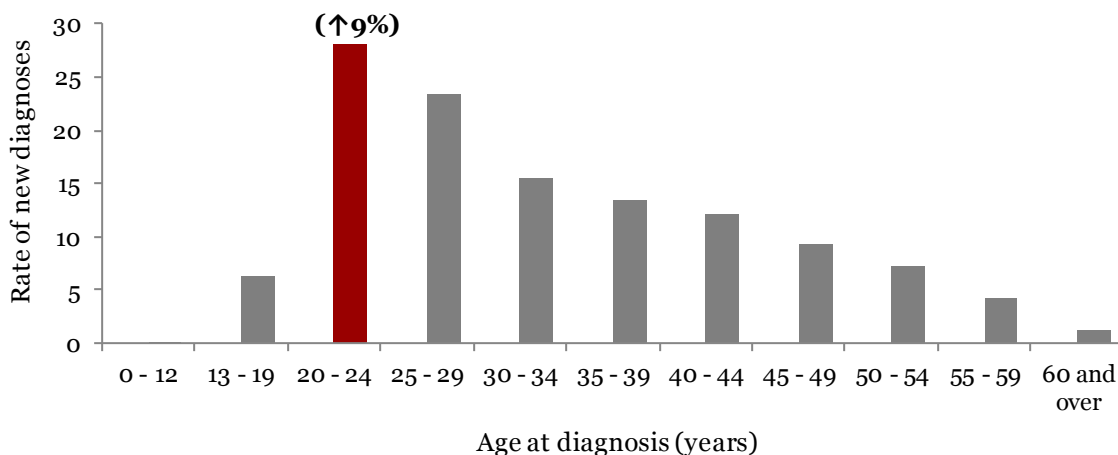
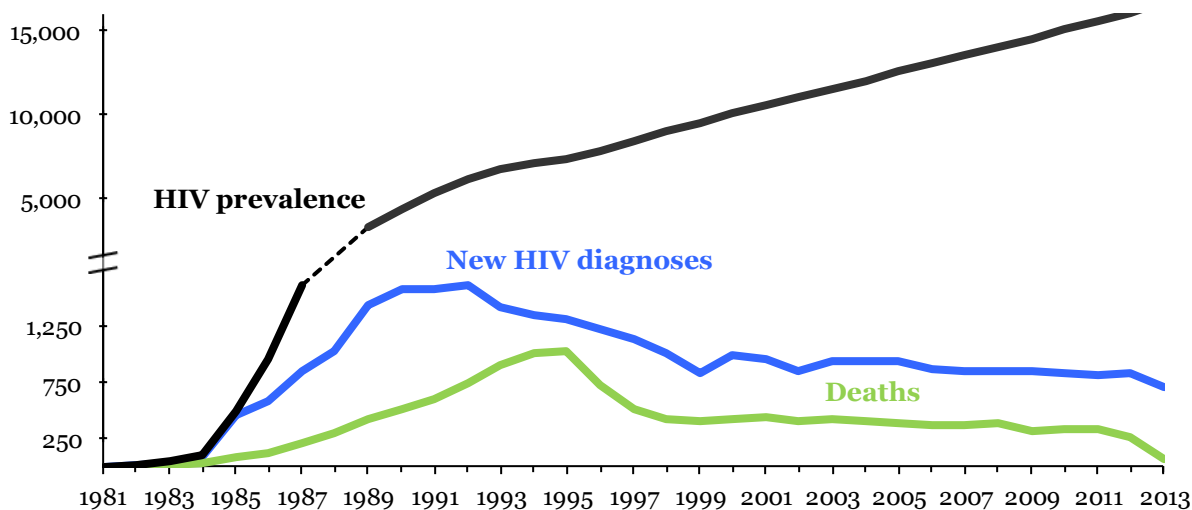


Figure 12: New diagnoses, deaths, and prevalence of HIV in Michigan, by year, January 2014



2014 Profile of HIV in Michigan (Statewide)

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

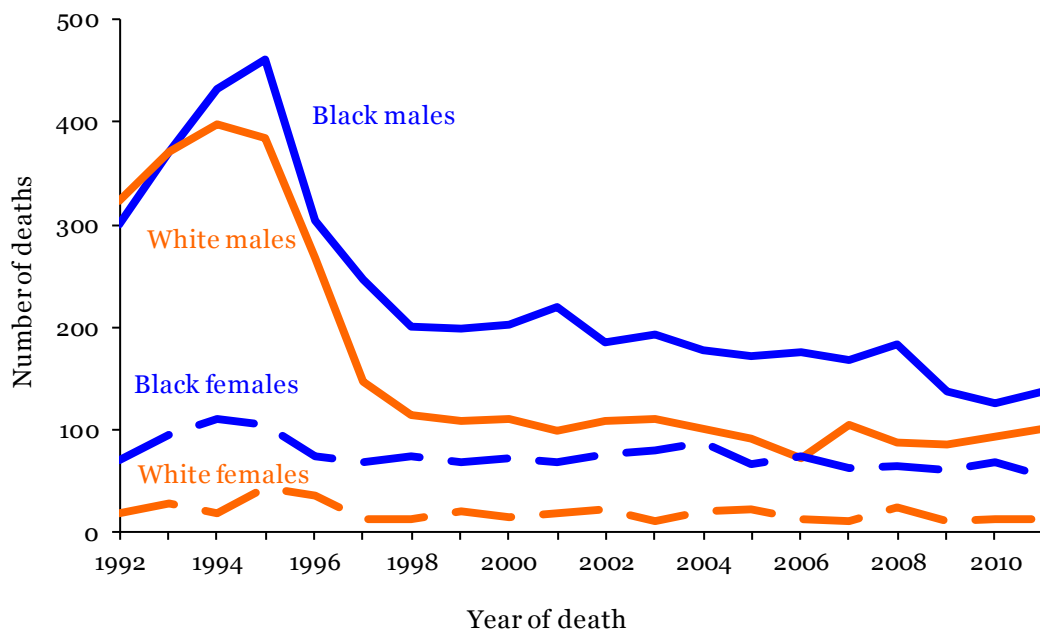
New diagnoses, deaths and prevalence of HIV by year:

The unadjusted number of new HIV diagnoses, number of deaths among HIV-positive persons, and HIV prevalence are presented in figure 12. The trend among new HIV diagnoses reflects reported cases. These data were not adjusted for reporting delay as they were in figures 8-11. Consequently, the decreases in new diagnoses seen in the most recent years will likely level out as more cases diagnosed during those years are reported. Although the number of deaths among HIV-positive persons is decreasing, the number of new HIV diagnoses is stable. As a result, HIV prevalence (the number of people currently living with HIV in Michigan) continues to rise.

Deaths among HIV-positive persons by race and sex:

Figure 13 shows the number of HIV-positive Michigan residents reported as deceased by a local health department, the Michigan Department of Vital Records (via a data match, death transcript, or death certificate), the National Death Index, or an alternate source. The number of deaths increased in all race/sex groups from the beginning of the epidemic through approximately 1994-1995. The number of deaths decreased markedly between 1995 and 1998 due to the availability of much more effective treatment and were relatively stable until 2001. It should be noted that the percent decrease in deaths among white males (74 percent) between 1995 and 2001 was more pronounced than the percent decrease among black males (52 percent), and the percent decrease among white females (59 percent) was larger than the percent decrease among black females (35 percent). Encouragingly, the number of deaths in black males fell substantially between 2001 and 2011 (37 percent). The number of deaths among white males did not change as appreciably (3 percent), nor did the number of deaths among black females (21 percent). Deaths among white females decreased by 33 percent between 2001 and 2011 (data not shown in tables). Deaths data for 2012 and 2013 are not complete at this time.

Figure 13: Michigan HIV deaths, by race/sex, January 2014



2014 Profile of HIV in Michigan (Statewide)

HIV Incidence Estimates

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

HIV incidence data differ from traditionally reported prevalence data and from number of new diagnoses. Incidence data estimate the total number of diagnosed and undiagnosed new infections in a particular year. Prevalence data measure everyone living with HIV, including newly diagnosed cases that may have been infected at any time. The number of new HIV diagnoses in a given year was considered to be a proxy estimate of incidence, prior to the availability of laboratory-based incidence estimates.

Rates were calculated for all cases greater than 12 years of age at infection. Data are reported for subgroups (sex, race, age and risk) where there are a minimum of 200 reported HIV cases, 40 incidence tests (or 20 percent completeness), and 10 recent incidence results. Age groups are based on age at infection, which is derived from age at diagnosis and incidence test result. Some demographic groups must be combined to satisfy the minimum number of reported cases required to release estimates. Risk groups include men who have sex with men (MSM), injection drug users (IDU, including MSM/IDU), and heterosexuals. Since reliable denominator data is not available for risk groups, rates cannot be calculated for these groups. For the first time, we are able to include estimates for select sub-populations, such as MSM by race.

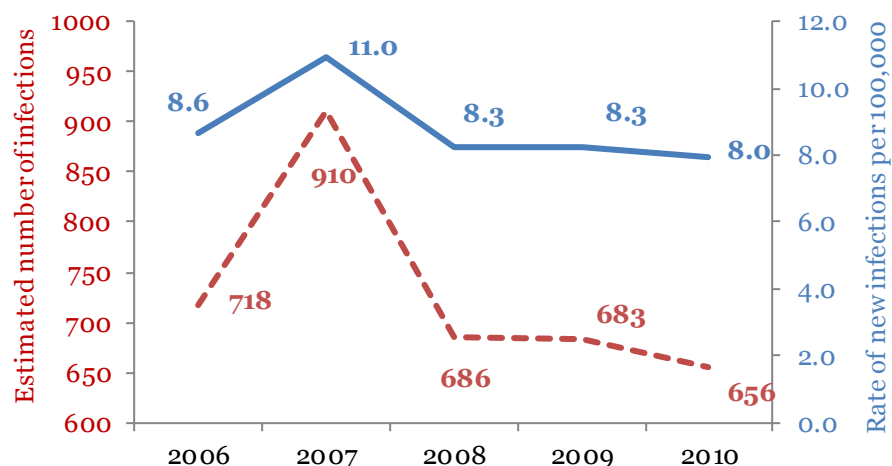
Incidence estimates overall (2006-2010):

Michigan's HIV incidence rate was stable overall for the five-year period between 2006 and 2010 (table 14, page 119). The state had an average of 731 new infections per year (range 656-910) for an overall HIV incidence rate of 8.8 cases per 100,000 population, ages 13 and older (range 8.0-11.0). This rate contrasts with the overall national rates for the 2007-2010, which range from 17.8 to 21.4 infections per 100,000 population—approximately double Michigan's rate.

There were no significant changes in Michigan overall or in any of the reported subgroups during the five year period. Consistent with national rates, Michigan males, black persons, 25-34 year olds, and MSM have the highest incidence rates and counts. We are unable to report estimated counts or rates for Hispanics and other racial/ethnic groups due to insufficient data to produce reliable estimates.

Both nationally and in Michigan, 2007 stands out as an unusual year where the estimated count and rate of new infections were higher than in other years (figure 14). However, this rise was not statistically significant. Counts and rates returned to more typical levels in 2008. No statistically significant changes in estimates of recent infection were detected for 2006-2010 in Michigan.

Figure 14: Estimated number and rate of new HIV infections in Michigan, 2006-2010



2014 Profile of HIV in Michigan (Statewide)

HIV Incidence Estimates

Data from enhanced HIV/AIDS Reporting System (eHARS) & STARHS

Risk:

As in the national data, MSM represent the largest number of new infections in Michigan. There were no statistically significant changes in the estimated number of new infections per year for any risk group between 2006 and 2010 (figure 15). National data for 2008-2010 showed a significant increase in MSM overall and MSM aged 13-24 years. A significant decrease in females with infection attributable to heterosexual contact was also seen at the national level.¹

Race:

There were no statistically significant changes in the estimated rate of new infections for white or black persons between 2006 and 2010 (figure 16). In Michigan, as at the national level, black persons continue to be disproportionately affected by HIV infection. The estimated rate of new infection for black persons in Michigan was 8.2 times the rate among white persons in 2010.

Sex:

The estimated rate of recent infection for males in Michigan was 4.8 times the rate for women in 2010. This is comparable to differences between the sexes seen nationally, where the rate for men was 4.2 times the rate for women in 2010.

There were no statistically significant changes in estimated

Figure 15: Estimated number of new HIV infections in Michigan by risk, 2006-2010

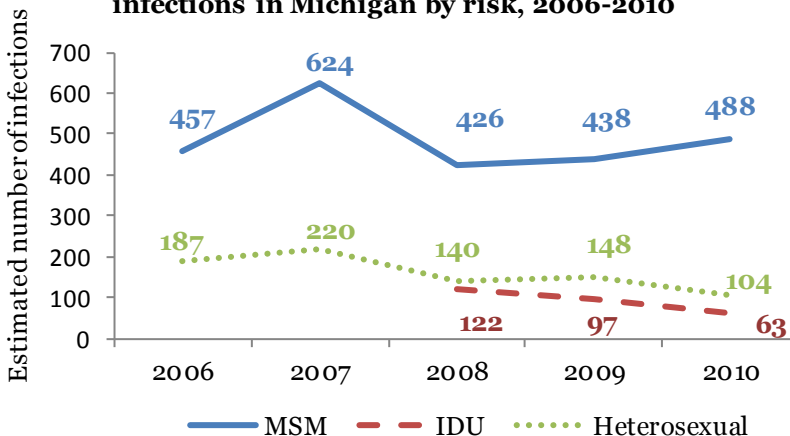


Figure 16: Estimated rate of new HIV infections in Michigan by race, 2006-2010

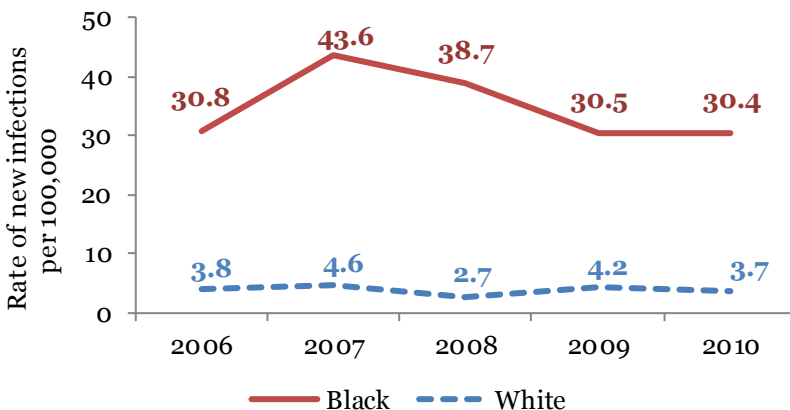
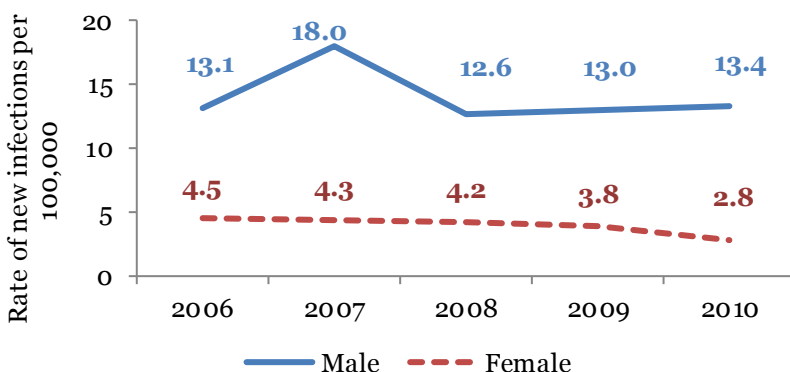


Figure 17: Estimated rate of new HIV infections in Michigan by sex 2006-2010



2014 Profile of HIV in Michigan (Statewide)

HIV Incidence Estimates

Data from enhanced HIV/AIDS Reporting System (eHARS) & STARHS

rates of new infections for males or females in Michigan between 2006 and 2010 (figure 17). Nationally, rates among women decreased significantly by 21 percent between 2008 and 2010.¹

Age at HIV infection:

In Michigan, as at the national level, the highest rates of HIV infection are among 25-34 year olds (figure 18). Since 2008, Michigan 13-24 year olds have experienced the second highest rates of infection. There were no statistically significant changes in infection rates for any age group between 2006 and 2010.

Race and sex:

Overall, rates of HIV infection were stable for black males, white males, and black females between 2006 and 2010. White females had too few incident cases to be included in this report. Figure 19 demonstrates the disproportionate impact of HIV on the black population in Michigan. In 2010, the rate in black males was 7.5 times the rate of white males; the rate in black females was nearly double the rate in white males. Nationally, between 2008 and 2010, there was a statistically significant 21 percent decrease among black females.¹ However, this decrease was not seen in Michigan.

Race and risk:

In Figure 20, men who have sex with men (MSM) are broken down by race. Overall, the numbers of black and white MSM

Figure 18: Estimated rate of new HIV infections in Michigan by age at infection, 2006-2010

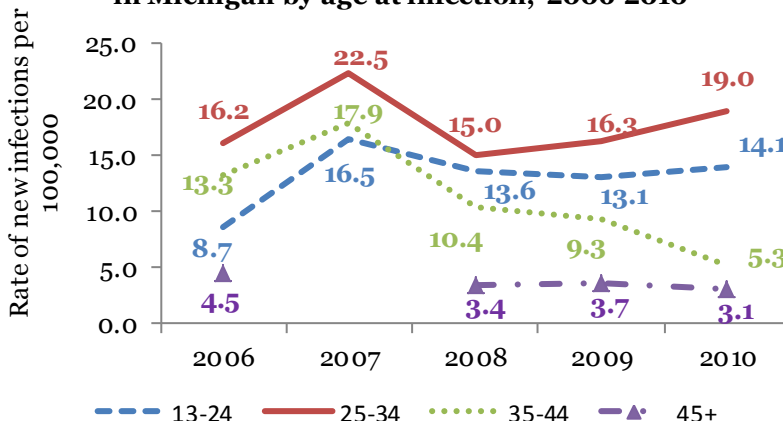


Figure 19: Estimated rate of new HIV infections in Michigan by race and sex, 2006-2010

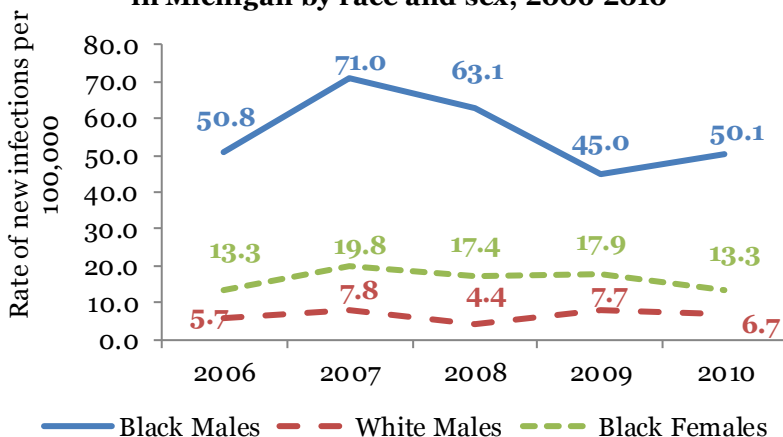
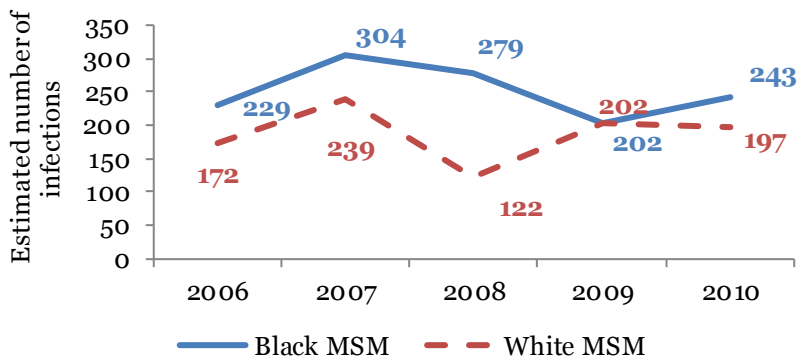


Figure 20: Estimated number of new HIV infections in Michigan by race and risk, 2006-2010



2014 Profile of HIV in Michigan (Statewide)

HIV Incidence Estimates

Data from enhanced HIV/AIDS Reporting System (eHARS) & STARHS

were stable between 2006 and 2010. In 2010, the estimated number of black MSM was 23.3 percent higher than white MSM.

Age, race, and risk:

Black MSM were further broken down by age at infection in figure 21, where “young” refers to 13-24 year olds and “older” refers to those ages 25 and above. In 2010, the estimated number of new infections among young black MSM was 37.3 percent higher than older black MSM.

In the national report CDC noted, “The greatest number of new HIV infections among MSM occurred in young black/African American MSM aged 13-24 years.”¹ This suggests the importance of observing trends in new infections among this group, in Michigan as well as at the national level.

Summary and conclusions:

This HIV incidence report should be interpreted along with prevalence³ and trend⁴ reports issued by MDCH. It is yet another descriptive tool to analyze the trajectory of the epidemic over time. Rates and counts were stable between 2006 and 2010 overall and for each subgroup analyzed. However, the large confidence intervals produced by the complex estimation process may mask real changes that are occurring. Thus, significant changes in the national data should be noted:¹

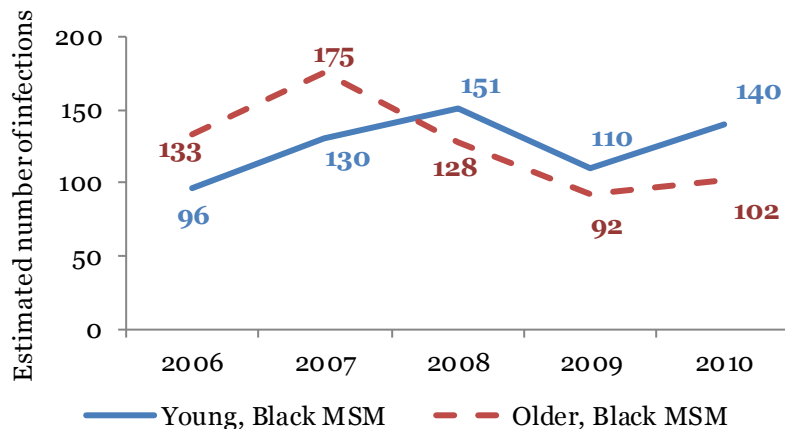
- National decreases among females, black females, females with infection attributed to heterosexual contact
- National increases among MSM and 13-24 year old MSM

Also, significant changes in Michigan Trends should be noted:⁴

- Statewide decreases among females, black females, IDU, heterosexuals, 40-44 year olds
- Statewide increases among males, white persons, 20-24 year olds, 25-29 year olds

Michigan will closely monitor these groups going forward.

Figure 21: Estimated number of new HIV infections in Michigan by age, race, and risk, 2006-2010



¹ Centers for Disease Control and Prevention. Estimated HIV incidence in the United States, 2007–2010. *HIV Surveillance Supplemental Report* 2012;17 (No. 4). Published December 2012. <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/#supplemental>

² Vintage 2011 Bridged-Race Postcensal Population Estimates, July 2012; Division of Vital Statistics National Center for Health Statistics: http://www.cdc.gov/nchs/nvss/bridged_race/data_documentation.htm

³ January 2013 Michigan HIV/AIDS Analysis, Michigan Department of Community Health HIV/AIDS website: http://www.michigan.gov/documents/mdch/January_2013_ALL_408513_7.pdf

⁴ Annual Review of HIV Trends in Michigan, 2006-2010: http://www.michigan.gov/mdch/0,4612,7-132-2940_2955_2982_46000_46003-36304--,00.html

2014 Profile of HIV in Michigan (Statewide)

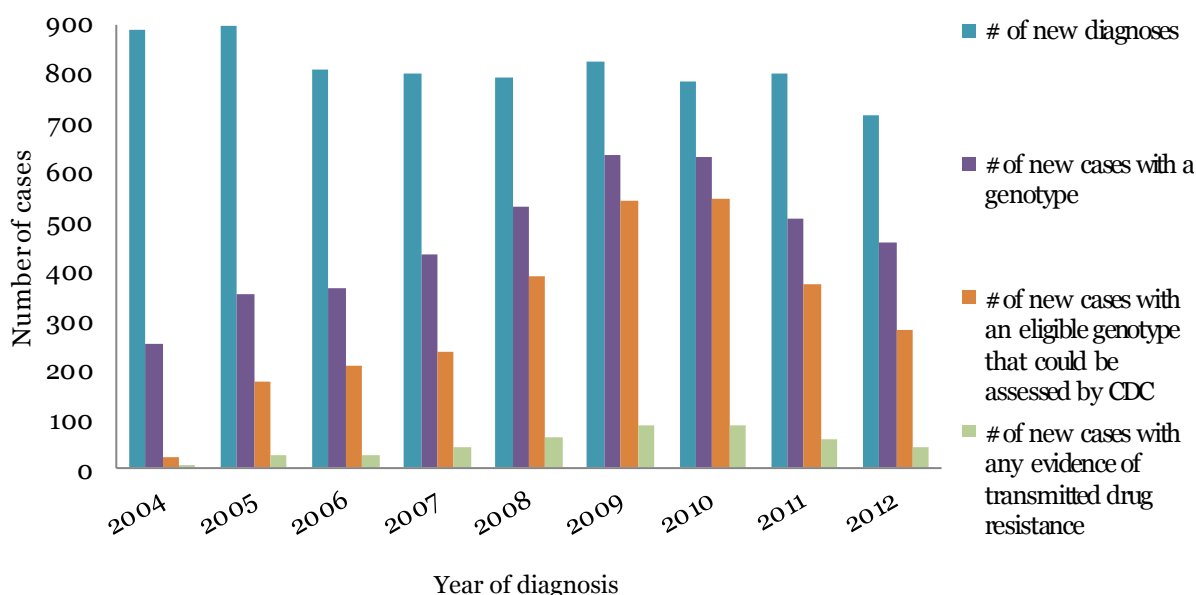
Viral Genotype Sequencing

Data from enhanced HIV/AIDS Reporting System (eHARS) & VARHS

Overview:

The state of Michigan has collected baseline viral genotype sequence data on newly diagnosed HIV positive individuals since October of 2004. Prior to June of 2010, remnant diagnostic HIV serum specimens were collected statewide from sites such as hospitals, private physicians, community-based organizations, blood banks, and local health departments and sequenced free-of-charge for patients as part of a CDC-funded initiative called VARHS (Variant Atypical and Resistant HIV Surveillance). Additionally, private labs began submitting electronic sequences from samples collected during routine HIV care as early as 2006. In June 2010, CDC funding for genotyping under the VARHS protocol ended and since that time genetic surveillance has relied solely on genotypes run in the course of care by practitioners with test results reported to MDCH (MCL 333.5114). Figure 22 shows a completeness cascade of collected genotypes from 2004 through 2012. For each year the total number of new HIV cases diagnosed in Michigan and the fraction of those cases with a viral genotype collected by MDCH are presented. These are followed by the number of viral genotypes collected by MDCH that represent baseline sequences – defined as those run on newly diagnosed cases (<6 months) that are unlikely to already have initiated antiretroviral therapy. Finally, the number of new cases with evidence of drug resistance is presented. Of note is the decrease in the number of genotypes collected by MDCH after 2010 attributable to the loss of federal funding for VARHS.

Figure 22: Genotype completeness in Michigan, 2004-2012



Transmitted Drug-Resistant Mutation (TDRM):

About 15.3 percent (n=422) of the total number of Michigan HIV cases with a genotype collected by MDCH within 6 months of their diagnosis date showed evidence of TDRM (third bars on the cascade presented in figure 22). Because these newly diagnosed individuals have yet to start treatment, the presence of any HIV drug resistance mutations in their HIV sequence indicates that the resistant virus was transmitted to them at the time of their infection. Michigan, a moderate morbidity state of approx-

2014 Profile of HIV in Michigan (Statewide)

Viral Genotype Sequencing

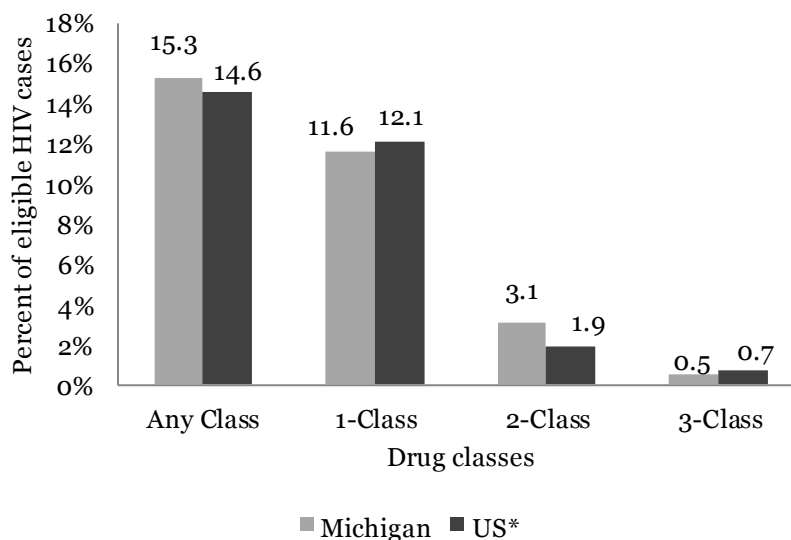
Data from enhanced HIV/AIDS Reporting System (eHARS) & VARHS

imately 800 new HIV infections diagnosed annually, has rates of TDRM comparable to national rates for the three most common types of anti-retroviral drugs – protease inhibitors (PI), nucleoside reverse transcriptase inhibitors (NRTI) and non-nucleoside reverse transcriptase inhibitors (NNRTI). See figure 23.

TDRM by drug class:

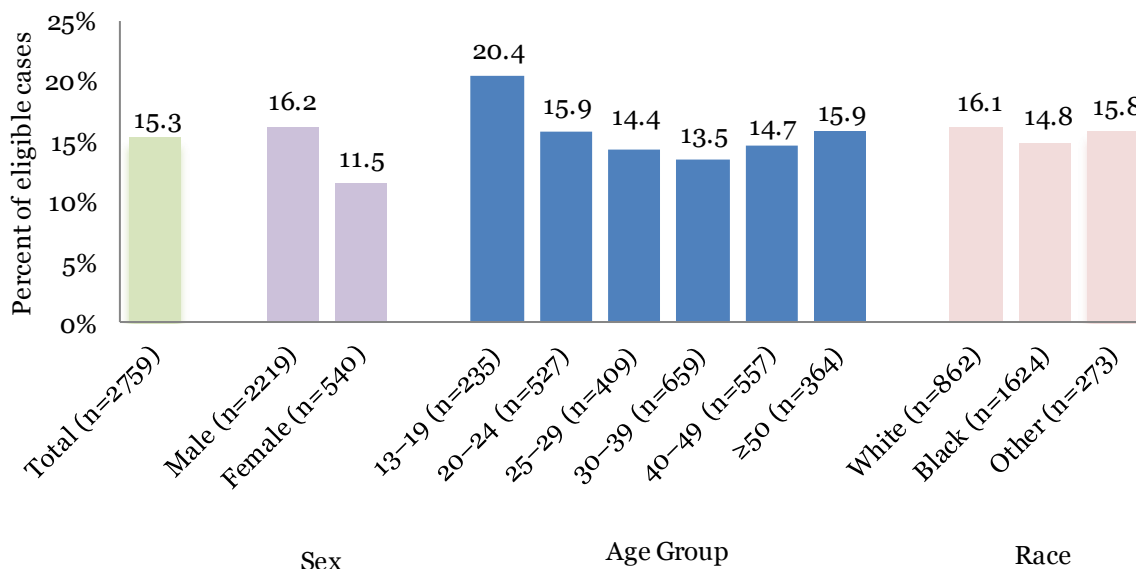
Of the 422 Michigan HIV cases with a genotype collected by MDCH between 2004 and 2012 within six months of their diagnosis and exhibiting evidence of TDRM, 76 percent had resistance to only one class of antiretroviral drugs. Among this 76 percent, PI, NRTI and NNRTI had similar rates of single drug class resistance (21-31 percent). Twenty percent of the 422 cases had multi-class drug resistance with four percent of those cases exhibiting resistance to all three major classes of antiretrovirals used to treat HIV.

Figure 23: Percent of cases with TDRM by number of drug classes, 2004-2012 (n= 2,759)



*National analysis only considered sequences within 3 months of diagnosis used to treat HIV.

Figure 24: Percent of eligible cases with TDRM, by sex, age, and race



2014 Profile of HIV in Michigan (Statewide)

Viral Genotype Sequencing

Data from enhanced HIV/AIDS Reporting System (eHARS) & VARHS

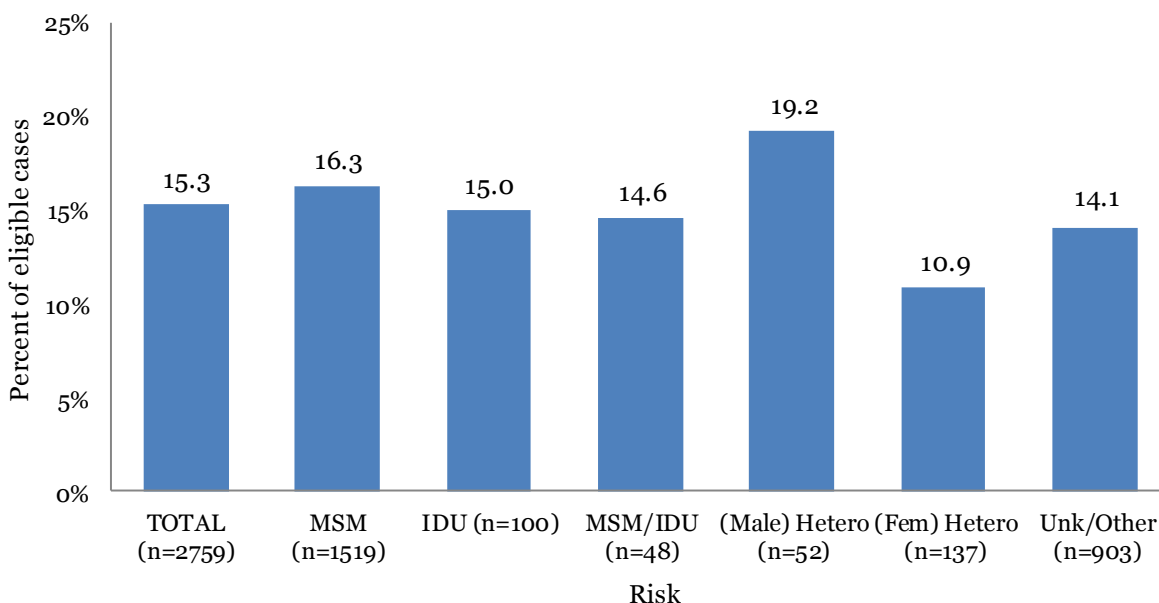
TDRM by sex, age, and race:

Women have a significantly lower percentage of TDRM compared to the rate overall. Figure 24 on page 33 shows that no age group or race demonstrated a significantly different proportion of TDRM than the total.

TDRM by risk:

Among the new cases with an eligible genotype (n=2,759), males who had heterosexual contact with a high-risk or HIV positive female had the highest rate of TDRM. All other risk categories were comparable to the proportion of TDRM in the total eligible cases (figure 25).

Figure 25: Percent of eligible cases with TDRM, by risk



TDRM by county of residence at diagnosis:

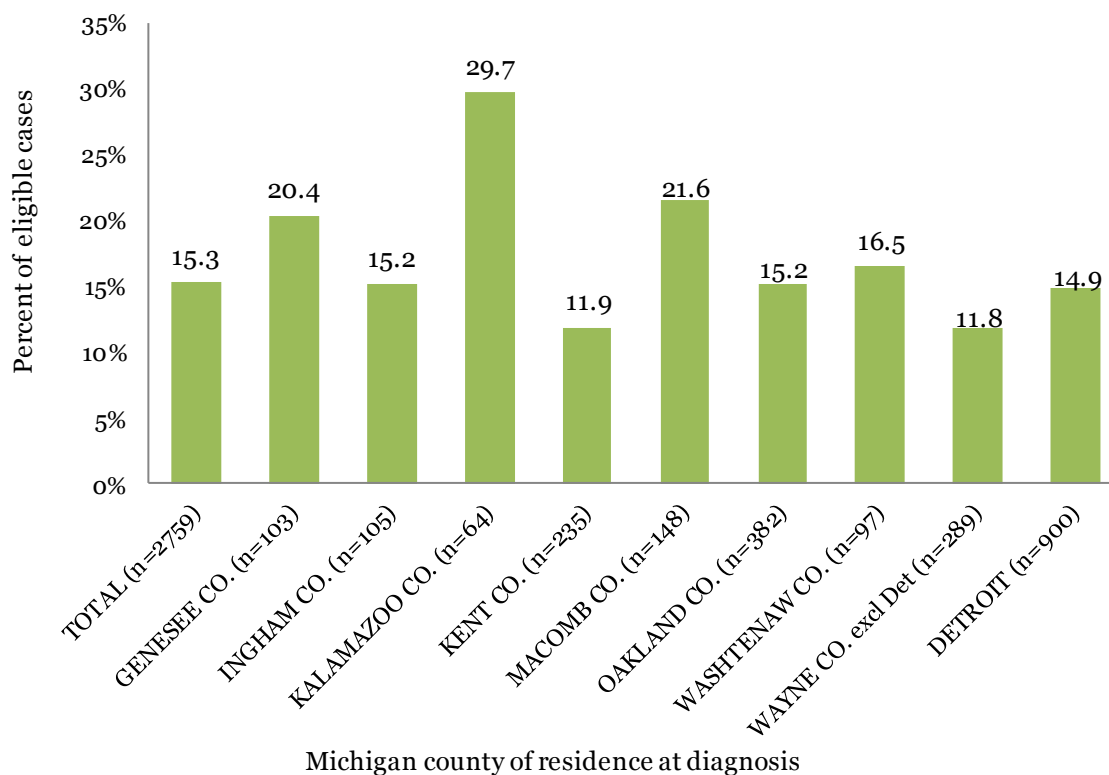
Eight Michigan counties had over 10 newly diagnosed HIV cases with a genotype collected by MDCH between 2004 and 2012 within six months of their diagnosis that exhibited evidence of TDRM. While the city of Detroit had the highest number of cases with TDRM, the percent of cases with TDRM was comparable to the total percent of eligible cases with TDRM in the state overall. The counties with rates of TDRM higher than the state average were: Kalamazoo, Macomb, Genesee, and Washtenaw (figure 26).

2014 Profile of HIV in Michigan (Statewide)

Viral Genotype Sequencing

Data from enhanced HIV/AIDS Reporting System (eHARS) & VARHS

Figure 26: Percent of eligible cases with TDRM by Michigan county of residence at diagnosis



HIV subtype or circulating recombinant form:

The HIV-1 group M (for Major) virus is the most common form of the HIV virus circulating in the world population. It is estimated that 90 percent of all infections world-wide are due to HIV-1 group M with an even higher percentage of the infected US population estimated to be group M. HIV-1 group M is further divided into multiple subtypes. Subtype B is the most common form found in Europe, the Americas, Japan, Thailand, and Australia. It is estimated that up to 98 percent of all HIV infections in the US are HIV-1 group M subtype B. Subtype A is commonly found in West Africa; subtype C is often seen in Southern Africa, India, and Nepal; and subtype D is seen only in Eastern and central Africa. There are also circulating recombinant forms which represent recombination or exchange of genetic material between two HIV subtypes to create a new circulating form of HIV. All 6,137 Michigan cases with a genotype sequence collected by MDCH from 2004-2013 were considered for subtype analysis (note that this is a slightly different denominator than what has been represented in earlier figures. Because subtype does not change over the course of an individual's infection we did not restrict this investigation to only those genotypes collected within the first six months following diagnosis).

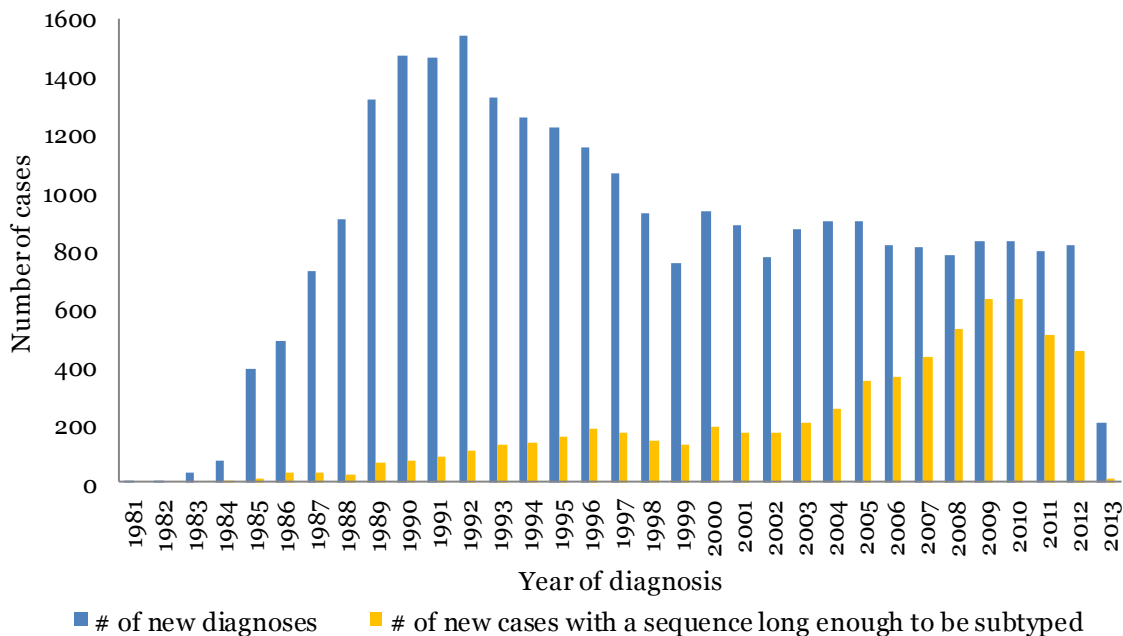
2014 Profile of HIV in Michigan (Statewide)

Viral Genotype Sequencing

Data from enhanced HIV/AIDS Reporting System (eHARS) & VARHS

Figure 27 shows the completeness of genotypes used for subtype analysis by year of diagnosis. Michigan's subtype analysis data spans a wide range of years in which cases were diagnosed, beginning with 1984 and peaking in 2010. This wide range helps to add to the generalizability of the data to all Michigan cases.

Figure 27: Genotype completeness for subtype analysis in Michigan, 1981-2013



In Michigan, 95.9 percent of cases were subtype B. This mirrors the national rate of 96.2 percent. Other subtypes grouped together constituted only an additional 1.9 percent of the total, leaving 2.2 percent of Michigan cases with a genotype sequence collected by MDCH between 2004 and 2013 as circulating recombinant forms. Proportions of subtypes among sex, age, race, and risk were all comparable to the total proportion of subtype.

The four Michigan counties with the largest counts of non-B HIV cases among genotyped Michigan cases were Ingham, Oakland, Kent and Wayne Counties. Ingham, Kent, and Oakland counties are the only counties that have rates of non-B HIV higher than the overall state rate. Given that the primary origin of non-B HIV is African countries, these unusually high rates of non-B HIV are explained by the high proportion of African-born persons living in Ingham and Kent counties at the time of their diagnosis. Of all foreign-born persons living with HIV in Michigan as of 2012, 5 percent lived in Ingham county and 22 percent lived in Kent county. Of these persons, 58 percent and 49 percent in Ingham and Kent counties respectively were African in origin—higher than the 41 percent of foreign-born persons living with HIV statewide who emigrated from Africa.

2014 Profile of HIV in Michigan (Statewide)

Men Who Have Sex with Men (MSM)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Behavioral data is compiled from surveillance data, the Medical Monitoring Project, and the HIV Behavioral Surveillance program. The HIV Behavioral Surveillance program is a CDC funded project in Wayne County, that monitors risk behaviors and access to HIV prevention services among three identified risk groups at a national and local level. Data collection is implemented in three annual cycles with each cycle focusing on one risk group, i.e., men who have sex with men (MSM), injecting drug users (IDU), and heterosexuals living in targeted areas (HET). This project is different from all other HIV surveillance activities because it collects data from people based on behavioral and/or residential characteristics and not their HIV status; most interviewees are uninfected.

The Medical Monitoring Project is an ongoing population-based surveillance project designed to assess clinical outcomes and behaviors of HIV-infected persons receiving care in the U.S. The MMP collects information on both behavioral and clinical data from confidential in-person interviews and medical record abstraction (MRA).

Ranked behavioral group:

Men who have sex with men (MSM) are the number one ranked behavioral group in Michigan for HIV infection. MSM remain the single largest behavioral group affected by the epidemic and account for over half (52 percent) of all reported HIV-positive persons, including MSM/IDU. MDCH estimates that there are approximately 11,870 MSM living with HIV infection in Michigan. This includes an estimated 880 HIV-positive males whose risk is a combination of having sex with other males and injecting drugs (table 8, page 112).

Race/ethnicity:

MSM account for most HIV infections among males in Michigan for all racial and ethnic groups. When considering reported cases among MSM and MSM/IDU of all races (9,331 reported cases), white males make up 45 percent (4,161 cases); black males account for 46 percent (4,297 cases); and Hispanic males account for five percent (429 cases) (table 11, page 116).

Age at HIV diagnosis:

Among MSM (including MSM/IDU), the highest proportion of all persons living with HIV infection were 30-39 years old at diagnosis (34 percent). MSM is the predominant mode of transmission for males ages 13 and up; male-male sex accounts for 82 percent and 81 percent of infections among those ages 13-19 years and 20-29 years at diagnosis, respectively (table 13, page 118).

Late HIV diagnoses:

Of the 16,750 persons living with HIV infection in Michigan, 54 percent (8,987 cases) have progressed to stage 3 HIV infection. Of these, 3,723 (41 percent) were diagnosed with stage 3 HIV infection at the time of their initial diagnosis (late HIV diagnosis). MSM make up 56 percent (5,023 cases) of persons living with stage 3 infection, of whom 41 percent (2,048 cases) had late HIV diagnoses (table 8, page 112). This is higher than among other behavioral groups, suggesting that MSM get tested for HIV later in the course of their infections.

Geographic distribution:

In both the Detroit Metro Area (DMA) and Out-State Michigan, MSM (including MSM/IDU) comprise the single largest mode of transmission. About two thirds (62 percent) of HIV-positive MSM statewide reside in the DMA, which is similar to the proportion of all cases that reside in the DMA (63 percent).

2014 Profile of HIV in Michigan (Statewide)

Men Who Have Sex with Men (MSM)

Data from enhanced HIV/AIDS Reporting System (eHARS) &
National HIV Behavioral Surveillance (NHBS)

Within high prevalence counties, MSM comprise 56 percent of persons living with HIV infection, while in the lower prevalence counties 60 percent of reported persons living with HIV infection are MSM (data not shown in tables; see figure 2 on page 18 for high/low prevalence county classification).

Methods:

Data collection activities for NHBS include a standardized core questionnaire used to collect information about risk behaviors for HIV infection, HIV testing, and access to and use of HIV prevention services among eligible adults. Participants were at least 18 years of age. Participants of the MSM cycle were recruited from venues in the Detroit area. Prior to data collection, formative assessment activities were conducted to identify venues attended by MSM. A venue was defined as an area, location, or building (public or private) in Wayne County (and Oakland County for 2011) attended by MSM for a purpose other than receiving medical care or services related to HIV. Adults eligible for the survey were male and had sex with a male (oral or anal) in their lifetime.

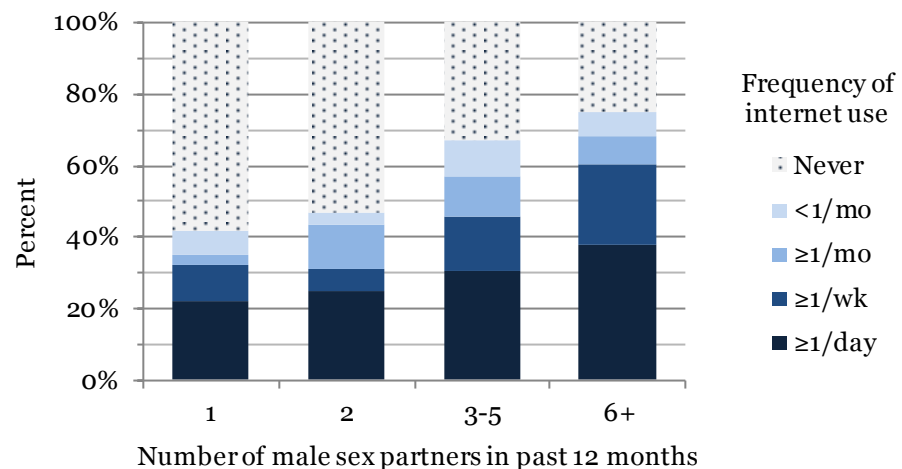
There were 171 patients interviewed and 309 medical record abstractions during the 2010 MMP data cycle. For MMP, the surveillance period is defined as the 12 months preceding the interview, and the medical history period is defined as the time between first entry into HIV care and the start of the surveillance period. For more information about MMP, please visit the Michigan MMP website. Due to lower than anticipated response rates, the 2010 MMP data were not weighted to provide a representative sample of the whole state, and the results may not be generalizable to the entire HIV-infected population in Michigan.

NHBS MSM cycle:

Michigan participated in the NHBS MSM cycle in 2008 (517 interviewed), 2011 (558 interviewed) and is currently collecting data for the 2014 cycle. Of the 558 MSM interviewed in 2011, analyses were conducted on the 462 who had sex with a male in the preceding 12 months. The majority (51 percent)

were 20-29 years old, black (56 percent) and residents of Wayne County (82%). A small minority (18 percent) also had sex (oral, anal or vaginal) with a female during the preceding 12 months. During their most recent sexual encounter with a male, 83 percent engaged in anal sex. Receptive anal sex decreased with age while oral sex increased. The proportion of MSM who met their last male sex partner at a bar increased with age (36 percent of 18-19 year olds, up to 69 percent of those 50 and older). Frequency of internet use to meet gay men for socializing or sex was positively correlated with the number of sex part-

Figure 28: Proportion of internet use to meet men



2014 Profile of HIV in Michigan (Statewide)

Men Who Have Sex with Men (MSM)

Data from enhanced HIV/AIDS Reporting System (eHARS),
National HIV Behavioral Surveillance (NHBS), &
Medical Monitoring Project (MMP)

ners (figure 28). Fifty-four percent of self-reported HIV negative MSM (225 of 413) reported they would take medication daily, such as pre-exposure prophylaxis (PrEP), to prevent HIV. It is important to note that since NHBS is conducted in the Detroit Metro Area, this data may not be representative of all MSM in the state. Please see the data source descriptions (page xi) in the Forward for further information on this project.

MMP:

A small majority (53 percent) of the 311 self-reported HIV negative MSM who had anal sex during their most recent sexual encounter, reported using a condom the whole time during last anal sex. Of the 422 persons Data from the Medical Monitoring Project (MMP) show that MSM were more likely to report two or more different partners in the 12 months prior to interview than persons in other risk groups (table 4). Over half (61 percent) of all MSM reported unprotected sex with at least one partner in the 12 months prior to interview. Please see the data source descriptions (page x) in the Forward for further information on this project.

Table 4: Number of sexual partners in the past 12 months of HIV-positive persons in care*† (MMP, 2010)

	MSM (n= 53)	MSW only (n=25)	WSM (n=23)
One	30 (61%)	11 (69%)	12 (80%)
Two or more	19 (39%)	5 (31%)	3 (20%)

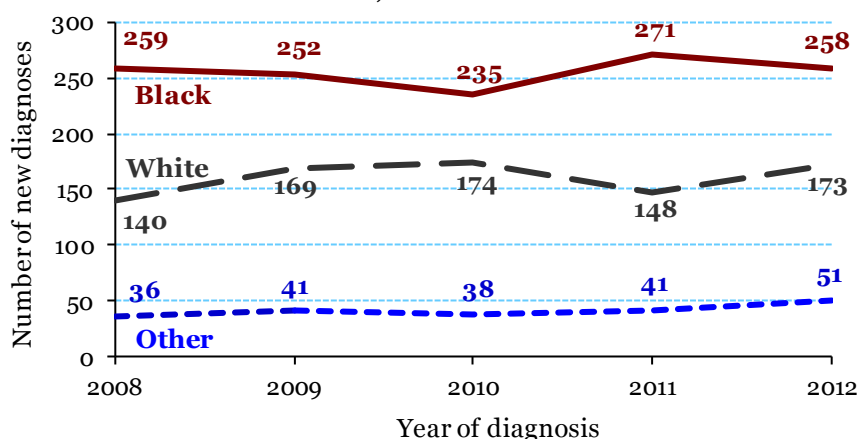
*Men who have sex with men (MSM), men who have sex with women only (MSW Only), women who have sex with men (WSM); note that these MSM and MSW are mutually exclusive categories.

†Includes oral, anal, and vaginal sex.

Trends and conclusions:

The estimated number of new HIV infections among men who have sex with men (MSM) remained stable from 2008 to 2012. The same is true for MSM who were also IDU (MSM/IDU). MSM and MSM/IDU together constituted 58 percent of all new diagnoses in 2012 (Trends). The majority of new MSM and MSM/IDU cases are black (figure 29). There were no statistically significant increases or decreases in number of new diagnoses in MSM or MSM/IDU in any racial/ethnic group. "Other" in this figure includes Hispanics and individuals of other or unknown race.

Figure 29: New HIV diagnoses among MSM by race, 2008-2012



2014 Profile of HIV in Michigan (Statewide)

Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Ranked behavioral group:

Heterosexual risk is the second highest ranked behavioral group in Michigan. Persons with heterosexual risk account for 18 percent of reported HIV infection cases. MDCH estimates that 3,860 persons living with HIV infection in Michigan have a risk factor of heterosexual contact (HC). Heterosexual contact is comprised of heterosexual contact with female with known risk (HCFR) and heterosexual contact with male (HCM). HCFR is only applicable to males and constitutes persons who had sex with females with known risk factors for HIV, including IDU, recipients of HIV-infected blood products, and/or HIV-positive individuals with unknown risk. HCM is composed of all females whose only reported risk is sex with males, regardless of what is known about the male partners' risk factors. Currently there are an estimated 850 HIV-positive persons who are HCFR (males) and 3,010 persons who are HCM (females) (table 8, page 112).

Race/ethnicity and sex:

Among the 3,037 persons currently living with HIV infection in Michigan with a risk of heterosexual contact, the majority (78 percent) are female. While females account for 22 percent of all reported HIV infection cases in Michigan, they have consistently accounted for over three-quarters of cases with heterosexual risk. The overall proportion of HIV-positive males with heterosexual risk is four percent. However, many males report heterosexual sex in addition to other risk factors, such as male-male sex (MSM) or injection drug use (IDU). See table 10, page 115 for data on exposure categories, which represent all reported modes of HIV exposure.

Most heterosexual cases of HIV infection are among black persons (69 percent), largely driven by the high number of black females with heterosexual risk. Nearly two thirds of all HIV-positive black females have heterosexual risk (65 percent). Heterosexual risk is also common among females of other racial/ethnic groups. Sixty-five percent of white female cases, 71 percent of Hispanic female cases, and 66 percent of female cases of other or unknown race have heterosexual risk (table 11, page 116).

Expanded risk:

Of the 3,037 HIV-positive persons with heterosexual risk currently living in Michigan, 16 percent report their heterosexual partners are injection drug users (73 percent of whom are female, 27 percent male); four percent have partners who are MSM that have ever had sex with a female (this applies to females only); and two percent have partners who are persons infected with HIV through blood products (72 percent female, 28 percent male). Forty-nine percent of HIV-positive persons with heterosexual risk report having sex with HIV-positive persons of unknown risk (35 percent female, 65 percent male) (expanded risk data not shown in tables). As the majority of cases with heterosexual risk are female, it is useful to examine this expanded risk among different female subgroups. Figures 30 and 31 on the following page show detailed risk information for black females and white females, respectively. While the risk distribution between black and white females is similar, of note is the fact that white females more frequently report having partners with known risks (such as IDU or MSM who have had sex with a female). Black females have a higher proportion of heterosexual contact without specific risk factors indicated.

2014 Profile of HIV in Michigan (Statewide)

Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 30: Black females living with HIV infection in Michigan by expanded risk transmission category, January 2014 (n = 2,532)

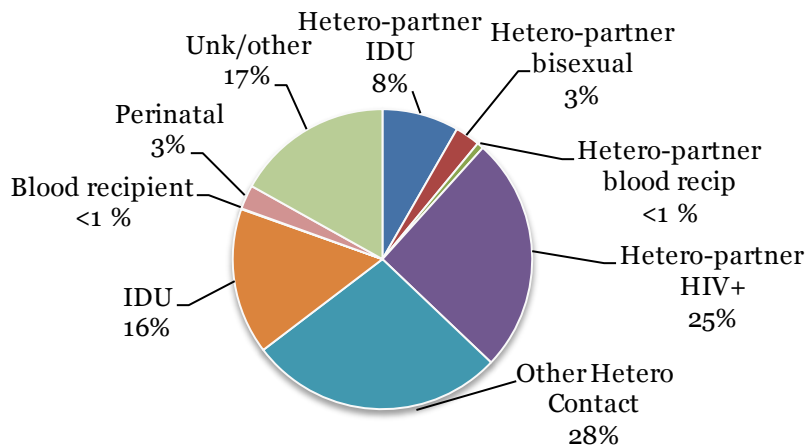
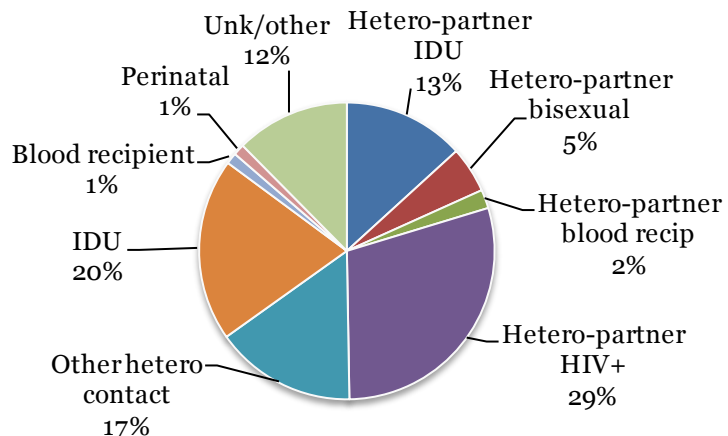


Figure 31: White females living with HIV infection in Michigan by expanded risk transmission category, January 2014 (n = 734)



Age at HIV diagnosis:

Heterosexual contact is the predominant reported risk factor for females who were 13 years of age and older at the time of HIV diagnosis. Over three-quarters (78 percent) of females 13-19 at the time of HIV diagnosis report heterosexual sex. As age increases, the proportion of HIV-positive females with heterosexual risk decreases, but it remains at least three times higher than injection drug use (IDU) for all age groups 13 years and older (table 13, page 118).

Among HIV-positive males, the proportion with a risk factor of heterosexual sex is low overall (5 percent). However, as age at diagnosis increases, heterosexual contact becomes a larger proportion of the overall risk (with 8 percent of males 60 years and over reporting a risk of heterosexual contact) (table 13). It is important to note that for males to be classified as heterosexual risk, they must have female partners with known HIV risk factors (such as IDU). When considering exposure categories, which represent all possible HIV exposures a person had, 47 percent of all males report heterosexual contact (with or without partners with known risk) (table 10, page 115).

2014 Profile of HIV in Michigan (Statewide)

Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS) &
National HIV Behavioral Surveillance (NHBS)

Late HIV diagnoses:

Of the 16,750 persons living with HIV in Michigan, 54 percent (8,987 cases) have progressed to stage 3 HIV infection. Of these, 3,723 (41 percent) were diagnosed as stage 3 HIV infection at the time of their initial HIV diagnoses. Persons with a risk of heterosexual sex make up 18 percent (1,628 cases) of persons living with stage 3 infection, of whom 36 percent (591 cases) had late HIV diagnoses. Overall, heterosexuals are more likely than IDU and less likely than MSM to have late HIV diagnoses (table 8, page 112).

Geographic distribution:

In the Detroit Metro Area, persons living with HIV infection with heterosexual risk comprise 18 percent of the total reported cases. In the Out-State areas, they comprise 19 percent of the total reported cases. The distribution is similar when considering high and low prevalence counties, with persons with heterosexual risk comprising 19 percent of all HIV-positive persons in high prevalence counties and 16 percent of those in low prevalence counties (data not included in tables; see figure 2 on page 18 for high/low prevalence county classification).

NHBS methods:

The HET cycle of NHBS recruits Wayne County residents via respondent driven sampling (RDS). For RDS, a few well connected and representative individuals from the risk community, called “seeds,” are selected. The seeds find three to five participants who, in turn, recruit an additional three to five persons in the same risk group. These waves of interviewees are recruited until the desired sample size is reached. Adults eligible for the HET survey had to have sex (oral, vaginal and/or anal) with a person of the opposite sex in the preceding 12 months. In order to be an eligible recruiter in the HET cycle, participants had to be of low socioeconomic status or education.

NHBS HET cycle:

Michigan participated in the NHBS HET cycle in 2006 (777 interviewed), 2010 (619 interviewed) and 2013 (675 interviewed). In 2007 a partner study was conducted in combination with the 2006 HET survey during which 124 black and Hispanic females and their male partners (matched pairs) were interviewed to determine the degree of risk that women perceive for themselves compared to the actual behaviors reported by their male partners.

Of the 675 participants interviewed in 2013, 622 had sex with a partner of the opposite sex during the preceding 12 months. These participants were predominately black (93 percent) with a median age of 34 years. The majority had never been married (72 percent). Sixty-eight percent completed high school or equivalent, 41 percent were unemployed, and 85 percent were living in poverty. There were 323 female participants and 299 male participants. A minority (16 percent) identified as bisexual, gay or lesbian—all others identified as heterosexual.

2014 Profile of HIV in Michigan (Statewide)

Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS) & National HIV Behavioral Surveillance (NHBS)

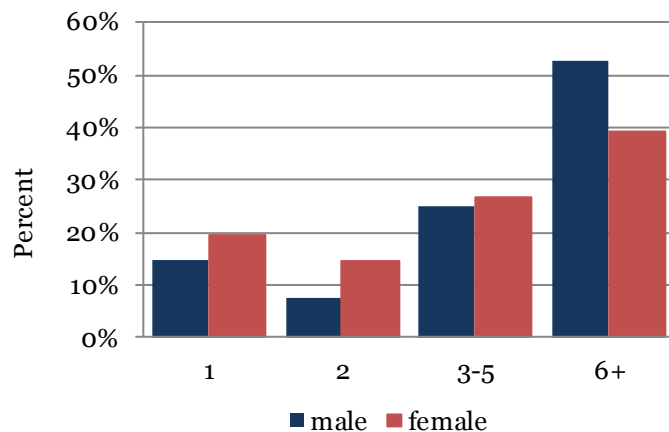
The majority of participants had sex with multiple partners during the 12 months preceding the survey, and males tended to have more sex partners than females (figure 32). Fifty-six percent of males and 58 percent of females had sex with a main partner during their most recent sexual encounter. The other participants described their last sex partners as casual. A minority (12 percent) used condoms the last time they had sex. This proportion was unaffected by partner type (figure 33).

A minority had a sexually transmitted infection (STI) in their lifetime (11 percent had Gonorrhea, 20 percent had Chlamydia, and six percent had syphilis). Sixty percent had not been tested for HIV in the past two years and 25 percent had never been tested for HIV. Of the 621 participants who were tested for HIV following the interview, four (less than one percent) were newly diagnosed with HIV.

Trends and conclusions:

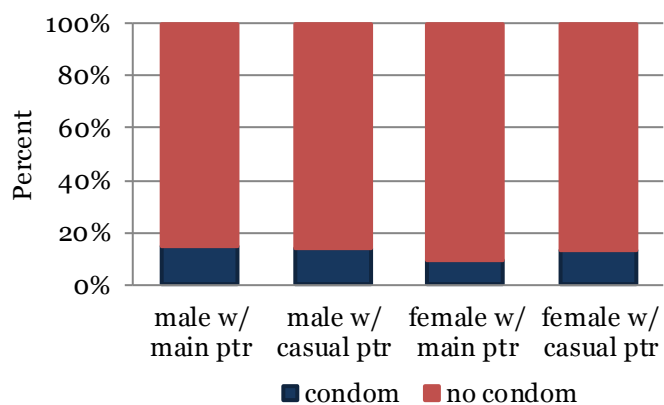
Between 2008 and 2012, the number of new HIV diagnoses among persons with heterosexual risk remained stable (Trends). The majority of HIV-positive females in Michigan, regardless of race or age, have heterosexual risk. A small proportion of males have heterosexual risk, but a large proportion (47 percent) of males who have other risks, such as MSM, also had heterosexual contact (table 10, page 115). The number of new cases each year among persons with heterosexual risk is four and a half times that of IDU (Trends).

Figure 32: Number of opposite sex, sex partners in the preceding 12 months



Number of sex partners of opposite sex

Figure 33: Condom use during most recent sex by sex and partner type



Participants' sex and partner type

2014 Profile of HIV in Michigan (Statewide)

Injection Drug Users (IDU)

Data from enhanced HIV/AIDS Reporting System (eHARS) &
National HIV Behavioral Surveillance (NHBS)

Ranked behavioral group:

Injection drug users (IDU) are the third ranked behavioral group in Michigan and account for 13 percent (2,116 cases) of reported HIV-positive persons (including MSM/IDU). MDCH estimates that there are 2,690 IDU currently living with HIV in Michigan. This estimate includes 880 HIV-positive males whose risk is a combination of having sex with other males and injecting drugs (MSM/IDU) (table 8, page 112).

Race/ethnicity and sex:

Of the 2,116 IDU and MSM/IDU living with HIV, 72 percent are male (1,514 cases). Black males make up the largest proportion of the total number of IDU and MSM/IDU currently living with HIV in Michigan (40 percent), followed by white males (22 percent), black females (19 percent), white females (7 percent), Hispanic males (5 percent) and Hispanic females (1 percent). In total, 59 percent (1,250 cases) of all IDU and MSM/IDU cases occur among black persons (table 11, page 116).

Age at HIV diagnosis:

Among males diagnosed in their 30s and 40s, IDU (including MSM/IDU) is nearly tied with undetermined risk for the second most common risk (15 percent vs. 18 percent, respectively). As age at diagnosis increases, the proportion with a risk of IDU increases (as opposed to MSM, where the proportion decreases with age). This proportion peaks, however, with males 40-49 years at diagnosis and then begins to decrease (table 13, page 118).

Overall, IDU is the second most common risk for HIV-positive females. However, this is true only for females 30-39, 40-49, and 50-59 years at the time of HIV diagnosis (20 percent, 21 percent, and 17 percent respectively). For females in all other age groups, IDU falls behind undetermined risk and becomes the third most common mode of transmission. When considering males and females together, there are few HIV infection cases with a risk of IDU among persons who were teens (13-19 years) at the time of HIV diagnosis (4 percent). Half of these cases are MSM/IDU (table 13).

Late HIV diagnoses:

Of the 16,750 persons living with HIV infection in Michigan, 54 percent (8,987 cases) have progressed to stage 3 infection. Of these, 3,723 (41 percent) were diagnosed as stage 3 at the time of their HIV diagnoses. IDU make up 14 percent (1,295 cases) of persons living with stage 3 infection, of whom 33 percent (423 cases) were diagnosed with stage 3 infection at the time of their initial HIV diagnosis (late HIV diagnosis). These data indicate that IDU are less likely than either heterosexuals or MSM to get tested early in the progression of HIV infection (table 8).

Geographic distribution:

The majority (62 percent) of IDU and MSM/IDU currently living with HIV infection reside in the Detroit Metro Area (DMA), which is similar to the proportion of all cases living in the DMA. Within high prevalence counties, 12 percent of reported cases are IDU (including MSM/IDU), while in the lower prevalence counties 13 percent of persons living with HIV infection are IDU (data not included in tables; see figure 2 on page 18 for high/low prevalence county classification).

NHBS methods:

Like the HET cycle, the IDU cycle recruits Wayne County residents via respondent driven sampling (RDS). For RDS, a few well connected and representative individuals from the risk community, called

2014 Profile of HIV in Michigan (Statewide)

Injection Drug Users (IDU)

Data from enhanced HIV/AIDS Reporting System (eHARS) & National HIV Behavioral Surveillance (NHBS)

“seeds,” are selected. The seeds find three to five participants who, in turn, recruit an additional three to five persons in the same risk group. These waves of interviewees are recruited until the desired sample size is reached. Adults eligible for the IDU survey had used illicit drugs intravenously in the preceding 12 months.

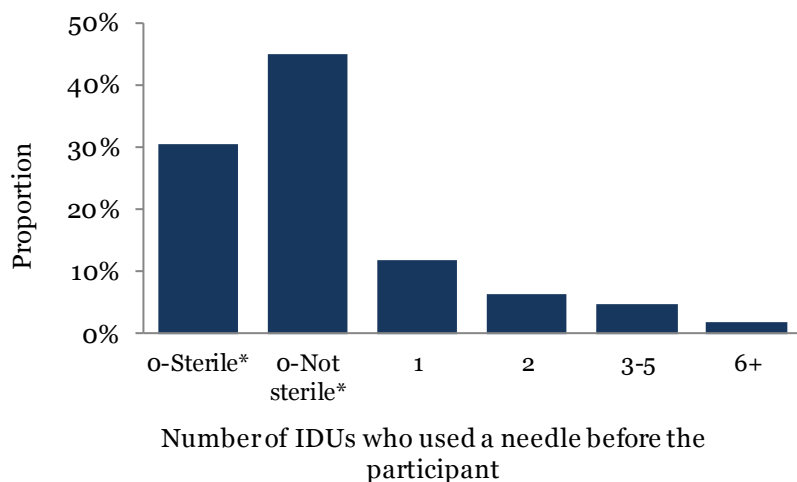
NHBS IDU cycle:

Michigan participated in the NHBS IDU cycle in 2005 (512 interviewed), 2009 (413 interviewed) and 2012 (765 interviewed). Of the 765 interviewed in 2012, 587 had physical signs of recent injections, such as track marks, and were eligible for analysis. The majority of the 587 were black (91 percent) with a median age of 56. IDU residents of Wayne County, especially Detroit, are much older than the average IDU user in the Detroit Metro Area. NHBS is restricted to residents of Wayne County. In future cycles, NHBS will be able to include residents of Oakland County and should be able to capture a more representative picture of IDUs in the Detroit area. Of the 587 participants captured in 2012, 63 percent were male, 37 percent were female and there were 2 transgender persons. The vast majority identified as heterosexual or straight (93 percent). Sixty-five percent had graduated high school, 35 percent were unemployed and 45 percent were on disability.

The majority (81 percent) injected drugs at least once a day on average over the preceding 12 months and 73 percent of them injected multiple times a day. The drug of choice was heroin with all participants using it at least once in the previous 12 months and 83 percent of them using it at least once a day. Only 10 percent of people used cocaine and the majority of those who did used it rarely (less than once a month). A smaller proportion (5 percent) used crack and/or oxycontin, also rarely used, and a very small group (4 persons) used meth no more than once per month.

Common places to obtain needles were friends or partners (59 percent), pharmacies (55 percent), needle exchange programs (36 percent), and/or dealers (21 percent). A very small proportion (5 percent) obtained a needle from a doctor's office, clinic or hospital. Ninety percent of participants reported using sterile needles at least half the time in the last 12 months. Of those who did not use sterile needles every time they injected

Figure 34: Number of IDUs who used a needle before the participant in the preceding 12 months



*Participants who reported always using a sterile needle are included in “o-Sterile”. Participants who did not report always using a sterile needle, but never used a needle after another IDU are included in “o-Not sterile”.

drugs in 2012, the majority (65 percent) used a new needle. Figure 34 displays needle sharing among IDUs in 2012. The majority of participants (90 percent) have been tested for HIV in their lifetime, but

2014 Profile of HIV in Michigan (Statewide)

Injection Drug Users (IDU)

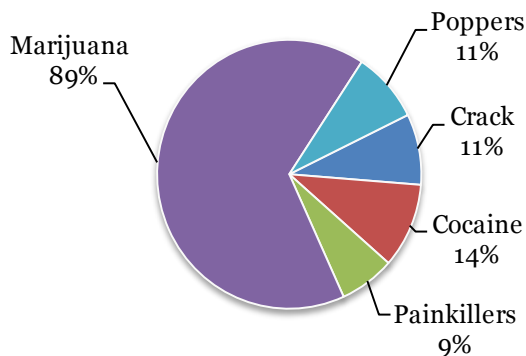
Data from enhanced HIV/AIDS Reporting System (eHARS),
National HIV Behavioral Surveillance (NHBS), &
Medical Monitoring Project (MMP)

only 57 percent were tested in the preceding two years. Of the 585 participants who were tested following the NHBS interview, eight (1.4 percent) new cases were identified.

Non-injection drug use:

Data from the Medical Monitoring Project (MMP), which includes only HIV-positive persons in care, show that the majority of medical records reviewed did not indicate injection drug use (95 percent). The most commonly used substance was marijuana (89 percent) followed by cocaine (14 percent) (figure 35). About 36 percent of participants had documentation of use of one or more non-prescribed drugs since entry into HIV care. Additionally, among participants who reported consuming alcohol in the 12 months prior to the interview (77 percent), 24 percent of males reported binge drinking at least one day in the last month. No females reported binge drinking. Forty-eight percent of those who consumed alcohol before or during sex.

Figure 35: Top 5 commonly used substances* noted in medical records of HIV-positive persons in care (MMP, 2010) (n=44)[†]



*Categories are not mutually exclusive

[†] excludes alcohol

Trends and conclusions:

Between 2008 and 2012, the proportion of newly diagnosed persons who were injection drug users (IDU) remained stable for the first time since 2001 (Trends). Data from Michigan's HIV Behavioral Surveillance suggest past reductions among IDU may be partly attributable to the success of harm reduction programs.

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS) &
US Census Bureau

Overview:

The majority of those living with HIV infection in Michigan are black persons, who make up 14 percent of Michigan's population yet over half (55 percent) of all Michigan HIV cases. MDCH estimates 11,820 black persons are living with HIV in Michigan. The reported prevalence rate among black persons is 671 cases per 100,000, and the rate among black males is 1,028. One out of 97 black males and one out of 287 black females are known to be living with HIV (table 8, page 112).

White persons comprise over a third (35 percent) of reported HIV infection cases and 76 percent of Michigan's population. MDCH estimates 7,360 whites are living with HIV in the state. Since these cases occur among a larger overall population, they have a lower reported prevalence rate (77 per 100,000 persons) than black or Hispanic persons. One out of every 735 white males and one out of 5,263 white females are known to be living with HIV (table 8).

Hispanic persons comprise five percent of HIV cases and five percent of the population. MDCH estimates that 1,070 Hispanic persons are living with HIV infection in Michigan. The prevalence rate (185 per 100,000 persons) is higher than that among white persons as a result of a smaller overall population. One out of 346 Hispanic males and one out of 1,282 Hispanic females are known to be living with HIV (table 8). See page 50 for a more in-depth analysis of Hispanic persons.

Asian/Native Hawaiian or Other Pacific Islander comprise just one percent of HIV cases and 3 percent of the population. They have a prevalence rate of 46 per 100,000 persons which is the smallest of any other racial/ethnic group. American Indian/Alaskan Native persons comprise less than one percent of HIV cases and only one percent of the population but have a prevalence rate equal to that of white persons (77 per 100,000 population). More data on Asian/Native Hawaiian or Other Pacific Islander, and American Indian/Alaska Native persons living with HIV can be found in tables 25, 26, 27, and 28 (pages 130-133). Arab persons living with HIV are discussed further on page 99.

Most persons living with HIV infection in Michigan are male (78 percent). The majority of the 13,115 male cases are black (52 percent), 39 percent are white, five percent are Hispanic, and five percent are other or unknown race. The majority of the 3,635 female HIV cases are also black (70 percent), 20 percent are white, five percent are Hispanic, and five percent are other or unknown race (table 8).

Racial and ethnic health disparities:

The state of Michigan is similar to the rest of the country in that large racial and ethnic disparities are seen in HIV prevalence rates and rates of new diagnoses. The epidemic disproportionately impacts black persons. The HIV prevalence rate among blacks is 671 cases per 100,000 persons, almost nine times higher than the rate among whites (77 per 100,000) (table 8). Black persons are also disproportionately represented in new diagnoses. Between 2008 and 2012, the rate of new diagnoses among black males was over 10 times that of white males, and the rate among black females was 18 times that of white females (Trends). Michigan's population is currently 76 percent white, non-Hispanic, 14 percent black, non-Hispanic, five percent Hispanic, and six percent other minorities and multiracial persons. This equates to 25 percent of persons in the state who identify as a race or ethnicity other than white (table 2, page 15). Given that HIV disproportionately impacts minorities, and Michigan has a large proportion of persons who identify as a racial or ethnic minority, it is important to focus attention on these disparities in order to reduce them.

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Exposure:

Since the majority of HIV-positive males have a risk of male-male sex (MSM), it is particularly useful to examine exposure categories (as many other exposures may be masked if a person is MSM). Figures 36 and 37 show black and white male cases by exposure category, which show all possible exposures a person had. A smaller proportion of HIV-positive black males have an exposure of MSM only compared to white males (34 percent vs. 56 percent, respectively). Twenty-eight percent of black male cases reporting MSM also report heterosexual contact (MSM/HC and MSM/HC/IDU) compared to 23 percent of white males. Twenty-one percent of black male cases report heterosexual contact as their only exposure, compared to nine percent of white males. A larger proportion of black male cases report both injection drug use and heterosexual contact (nine percent compared to five percent of white males).

Figure 36: Black male HIV infection cases currently living in Michigan by exposure category, January 2014 (n = 6,762)

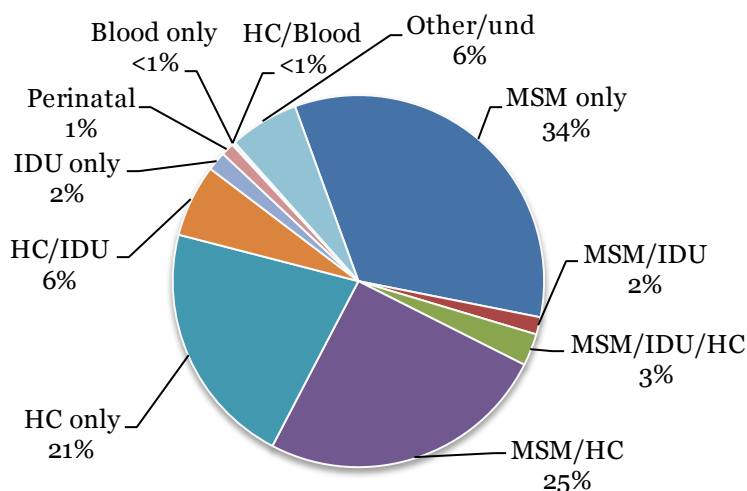
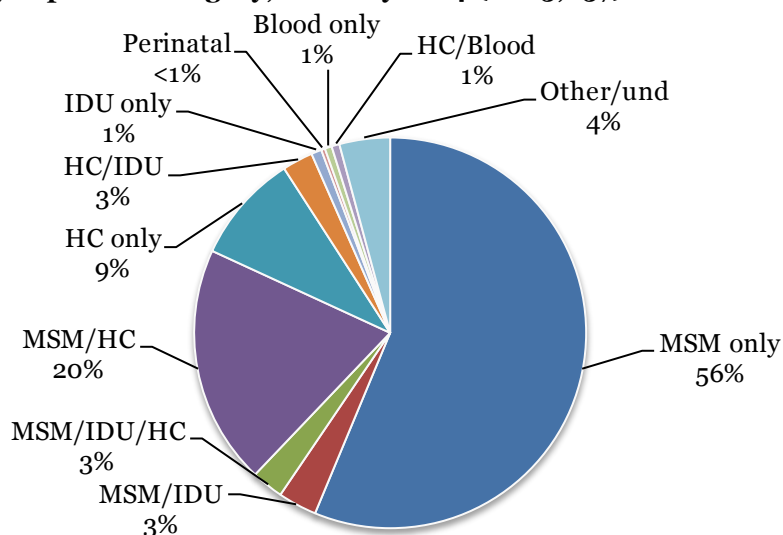


Figure 37: White male HIV infection cases currently living in Michigan by exposure category, January 2014 (n = 5,057)



2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

See figures 30 and 31 on page 41 for expanded risk among black and white female cases. For females, expanded risk transmission categories are examined as the majority of female cases have heterosexual risk. The large number of male cases who report both MSM and heterosexual contact is interesting, given that just three percent of females report sex with MSM who have also ever had sex with a female. This is likely an underestimate due to incomplete risk factor assessment (data not shown in tables).

Late HIV diagnoses:

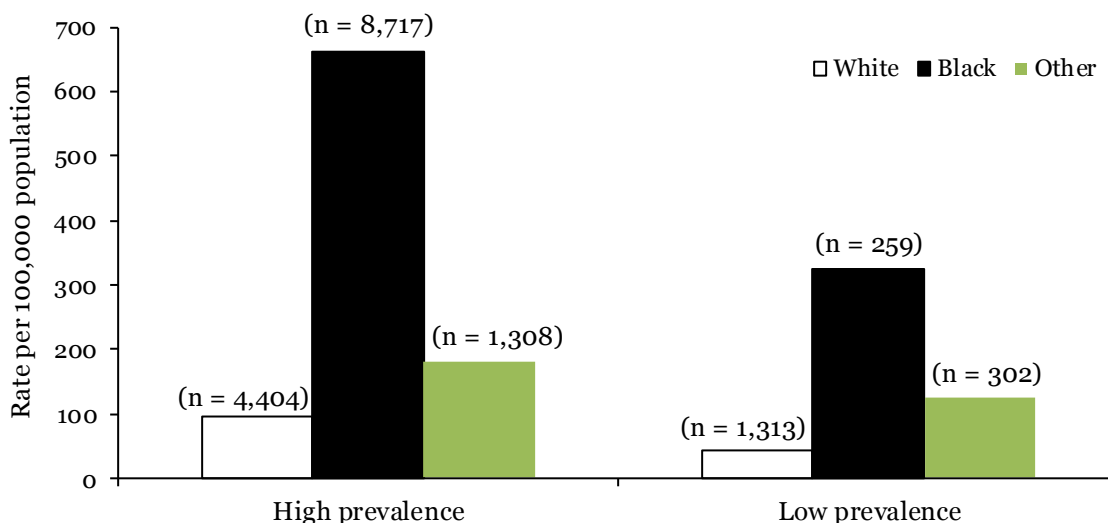
Of the 16,750 persons living with HIV infection in Michigan, 54 percent (8,987 cases) have progressed to stage 3 infection. Of these, 3,723 (41 percent) were diagnosed as stage 3 at the time of their initial HIV diagnoses (late HIV diagnoses). Males make up 80 percent of stage 3 cases, of whom 43 percent had late HIV diagnoses. Females make up 20 percent of stage 3 cases, of whom 36 percent had late HIV diagnoses (table 8, page 112).

Although white persons make up a smaller proportion of persons living with stage 3 compared to black persons (35 vs. 55 percent, respectively), a larger proportion of white persons living with stage 3 had late HIV diagnoses than black persons (45 vs. 39 percent). Hispanic persons make up five percent of stage 3 cases, of whom 48 percent had late HIV diagnoses. Other minorities make up roughly five percent of stage 3 cases, but Asians/Native Hawaiians or Other Pacific Islanders have the highest proportion of stage 3 cases that were late HIV diagnoses (52 percent) (table 8).

Geographic distribution:

The distribution of HIV among various racial groups differs throughout the state. The impact of HIV, regardless of race, is greater in high prevalence areas than in low prevalence areas of the state (see figure 2 on page 18 for high/low prevalence county classification). Figure 38 shows that the HIV prevalence rate in high prevalence areas is nearly twice as high as the rates in low prevalence areas for all racial groups. Additionally, the HIV infection prevalence rate among black persons is almost seven times higher than white persons in high prevalence areas and over seven and a half times higher than the rate among white persons in low prevalence areas.

Figure 38: Prevalence rates of persons living with HIV infection in high and low prevalence areas of Michigan, by race, January 2014



2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Race and Sex

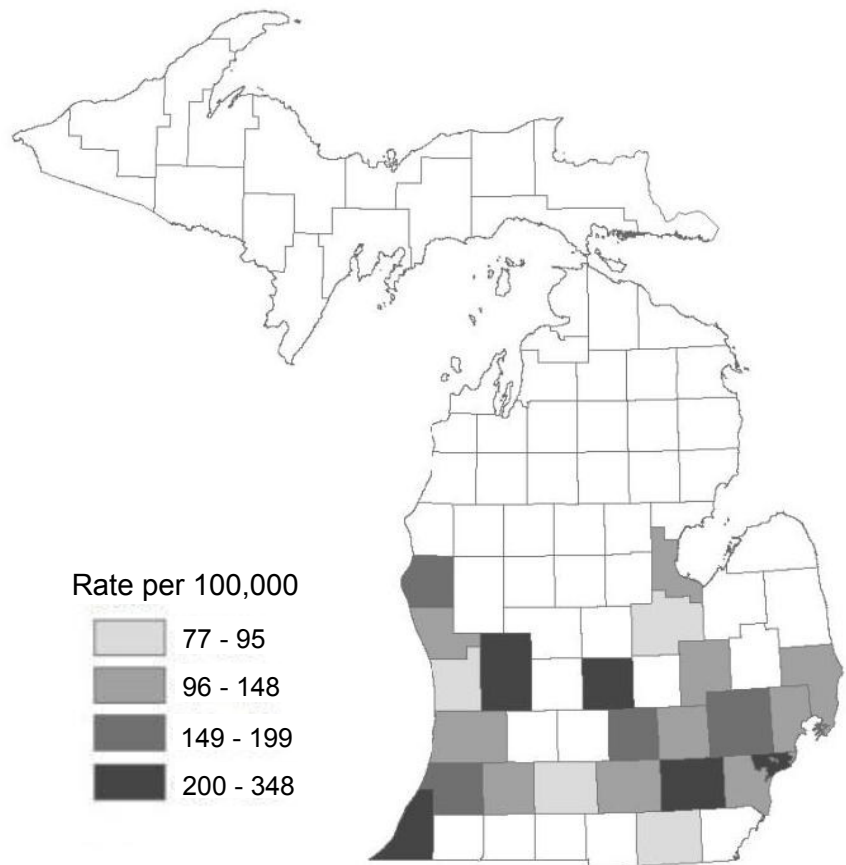
Data from enhanced HIV/AIDS Reporting System (eHARS)

This disparity exists despite the fact that there are fewer cases among black persons in low prevalence areas. The HIV infection prevalence rates among persons of other races/ethnicities (including Hispanics, Asians/Native Hawaiians or Other Pacific Islanders, American Indians/Alaska Natives, and persons of other, multi-, or unknown race) is nearly twice as high as the rate among white persons in both high and low prevalence areas.

Hispanics:

Hispanic persons comprise five percent of all persons living with HIV infection in Michigan (table 8, page 112). Figure 39 shows the HIV prevalence rate of Hispanic persons by county for those counties with five or more reported Hispanic cases. Seven of the 23 counties that meet this definition are either on the Lake Michigan shoreline or just east of it. This is most likely due to the large population of migrant workers in this area. The City of Detroit has both the highest number and the highest rate of Hispanic cases at 348 cases per 100,000 persons. The individual rates for the remaining counties are as follows, in order of decreasing rate: Washtenaw (274), Kent (253), Berrien (226), Clinton (218), Oakland (199), Van Buren (187), Ingham (171), Oceana (161), Macomb (148), St. Clair (145), Wayne (143), Kalamazoo (138), Livingston (133), Muskegon (128), Jackson (119), Allegan (117), Bay (115), Genesee (114), Ottawa (95), Saginaw (89), Lenawee (79), and Calhoun (77). Data not shown in tables.

Figure 39: HIV infection prevalence rates among Hispanic persons by Michigan county, January 2014



Trends and conclusions:

For the first time since we began analyzing HIV trends in 2001, there were no changes in the rate of new HIV diagnoses for any race/sex group. The rate of new diagnoses remained highest among black persons of both sexes compared to all other race/sex groups. Although decreases in new diagnoses among black females have narrowed the rate difference between black and white females, the gap between black and white males seems to have remained relatively stable in recent years.

2014 Profile of HIV in Michigan (Statewide)

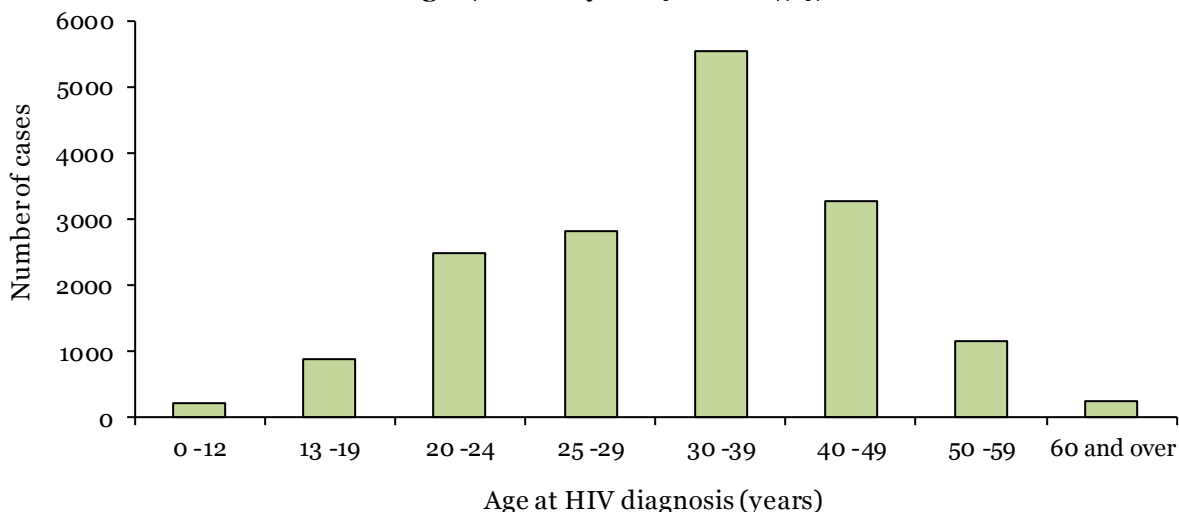
Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Age at diagnosis:

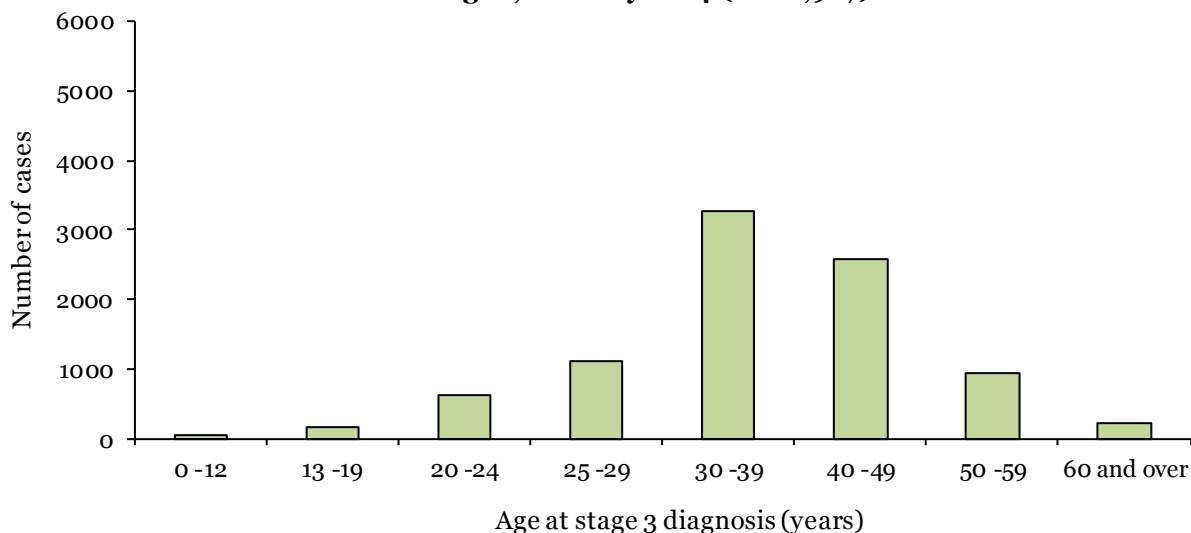
The majority of persons newly diagnosed with HIV are between 30 and 39 years old, followed by persons 40-49 years of age (figure 40). The pattern changes when looking at age at stage 3 diagnosis in figure 41, where 40-49 year olds make up a higher proportion of new stage 3 diagnoses than all new HIV diagnoses (29 percent vs. 20 percent, respectively), and 20-29 year olds make up smaller proportions of stage 3 diagnoses than all new HIV diagnoses (19 vs. 32 percent, respectively). This is because many years may pass between HIV diagnosis and progression to stage 3 infection (data on age at HIV diagnosis found on table 8, page 112; data on age at stage 3 diagnosis not shown in tables).

Figure 40: Age at HIV diagnosis of persons living with HIV infection in Michigan, January 2014 (N = 16,747*)



*Not included are 3 HIV infection cases with missing date of birth/age information.

Figure 41: Age at stage 3 diagnosis of persons living with HIV infection in Michigan, January 2014 (n = 8,987)

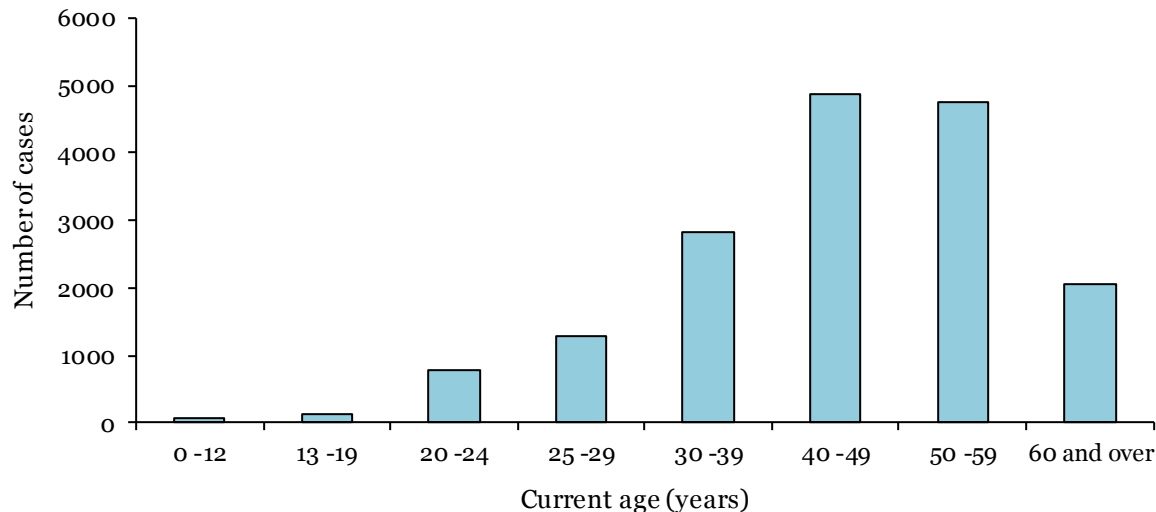


2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 42: Current age of persons living with HIV infection in Michigan, January 2014 (N = 16,747*)



*Not included are 3 HIV infection cases with missing date of birth/age information.

Current age:

Since use of Highly Active Anti-Retroviral Therapy (HAART) became widespread in 1996, HIV-positive persons have been living longer. This is evident in figure 42, which shows the current age of persons living with HIV in Michigan as of January 1, 2014. Those currently in their forties make up the largest proportion of persons living with HIV (29 percent). While persons who were 50 years and older at the time of HIV diagnosis represent only nine percent of living cases (figure 40), they make up over one third (41 percent) of persons living with HIV when considering current age (data on current age not shown in tables).

Late HIV diagnoses:

Of the 16,750 persons living with HIV infection in Michigan, 54 percent (8,987 cases) have progressed to stage 3 infection. Of these, 3,723 (41 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). When examining persons living with stage 3 infection by age at diagnosis, the proportion of cases with late HIV diagnoses increases as age increases. Among persons 60 years and older at stage 3 diagnosis, 70 percent had late diagnoses (table 8, page 112).

Trends and conclusions:

The rate of new HIV diagnoses increased significantly among persons 20-24 years of age (an average 9 percent per year). This is the third consecutive report showing increases among 20-24 year olds (Trends). Twenty to twenty-four year olds now have the highest rate of diagnosis of any age group (figure 11, page 26). The largest number of new diagnoses and highest prevalence, however, remains among persons 30-39 years old at the time of diagnosis (table 8). When considering current age, persons 40-49 years, followed by persons 50-59 years, make up the largest proportion of persons living with HIV infection (figure 42).

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Children (0-12 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 238 individuals living with HIV in Michigan who were 0-12 years old at diagnosis. They comprise one percent of all reported HIV infection cases (table 8, page 112). Most 0-12 year olds (82 percent) were infected perinatally, i.e., before, during, or shortly after birth (table 13, page 118). Of the remaining individuals, six percent were infected via exposures to HIV-infected blood products before 1985. The remaining 12 percent have other or unknown risk. Many of those with unknown risk are suspected perinatal transmission cases but were born outside the United States (data not shown in tables). Michigan collects data on infected children and uninfected children of positive mothers (exposure).

Race/ethnicity and sex:

Of the 238 individuals living in Michigan who were ages 0-12 when diagnosed with HIV, 56 percent are male and 44 percent are female. About two thirds are black (65 percent), 19 percent are white, and eight percent are Hispanic. The remaining eight percent are of other or unknown race (table 12, page 117).

Of the 203 individuals with confirmed perinatal exposures, 55 percent are male and 45 percent are female. Seventy percent are black, 12 percent are white, and 18 percent are Hispanic or other or unknown race (table 11, page 116).

Late HIV diagnoses:

Children make up less than one percent of persons living with stage 3, of whom 30 percent (25 cases) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). A slightly higher proportion of persons with a risk of perinatal transmission had late HIV diagnoses (39 percent) (table 8).

Geographic distribution:

Eighty percent of the 238 children diagnosed with HIV between the ages of 0-12 years are currently residents of high prevalence counties (see figure 2, page 18 for high/low prevalence county classification). Eighteen percent reside in low prevalence counties. Fifty-six percent of HIV cases that were diagnosed as children are currently residents of the Detroit Metro Area (DMA) (data not shown in tables).

Trends and conclusions:

Among the best measurable successes in reducing HIV transmission has been prevention of mother to child (perinatal) transmission. Without antiretroviral (ARV) prophylaxis, about 25 percent of children born to HIV-positive females could expect to become HIV-positive themselves. In Michigan, the proportion of children who become infected perinatally has dropped precipitously, from 29 percent prior to 1997 to six percent between 1997 and 2009. As of January 1, 2014, four of the 43 children born in Michigan in 2009, one of the 42 children born in 2010, three of the 60 children born in 2011, and one of the 50 children born in 2012 to HIV-positive females were diagnosed with HIV infection. (data not shown in tables). NOTE: numbers in this paragraph are based on residence at *birth*, NOT current residence.

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Children (0-12 years)

Data from Michigan Birthing Hospital Assessment & enhanced HIV/AIDS Reporting System (eHARS)

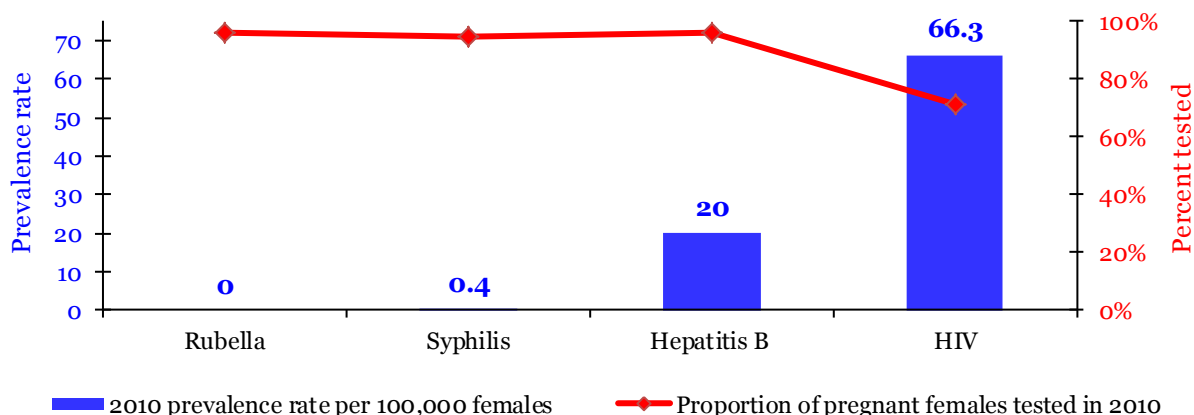
Perinatal testing for HIV in Michigan:

The majority (82 percent) of persons diagnosed with HIV between the ages of 0-12 years were infected perinatally (table 13, page 118). Of the 4,620 females estimated to be living with HIV in Michigan, approximately 985 (21 percent) are unaware of their HIV status. The predominant risk factor for females diagnosed with HIV during child-bearing age (15-49 years) is heterosexual contact (table 13). This HIV prevalence data, coupled with the fact that nearly 50 percent of pregnancies in the US are unplanned (Division of Reproductive Health, National Center for Chronic Disease Prevention and Health Promotion. <http://www.cdc.gov/reproductivehealth/unintendedpregnancy/>), underscore the importance of screening females for HIV during pregnancy.

In August 2010, MDCH updated its Guidelines for Testing and Reporting Perinatal Human Immunodeficiency Virus (HIV), Hepatitis B and Syphilis to include routinized third trimester HIV testing. All pregnant females in Michigan are to be tested as early as possible at diagnoses of pregnancy and again at 26-28 weeks gestation, regardless of perceived risk and/or whether they had a previous negative test result. It is recommended that females who are considered high-risk be tested again at 36 weeks gestation or at delivery. The addition of third trimester testing as a best practice guideline in Michigan is consistent with MDCH's commitment to being a part of the national effort to eliminate maternal to child transmission of HIV.

Despite these recommendations and requirements, HIV is tested for less frequently than other infectious diseases (figure 43). The Michigan Birthing Hospital conducts a hospital survey every 3 years to determine whether the hospitals had written policies and/or stand orders for the testing of pregnant women and for providing the appropriate prophylaxis to both the mother and the newborn for Hepatitis B, rubella, syphilis, and HIV. These data and data from surveillance show that the prevalence rate of disease among females is somewhat inversely proportional to the proportion of pregnant females tested for it. In 2010, the HIV prevalence rate per 100,000 females was 66.3 (3,370 cases), the hepatitis B rate was 20 (1,017 cases), the syphilis rate was 0.4 (20 cases), and there were no cases of rubella. Only 71 percent of pregnant females had a documented HIV test in their hospital chart compared to 95-96 percent of all pregnant females for the other three infections.

Figure 43: Testing and prevalence rates of select STDs and other infections among females in Michigan, 2010



2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Children (0-12 years)

Data from Michigan Birthing Hospital Assessment

Data also show that only 63 percent of Michigan birthing hospitals had written policies (WP) or standing orders (SO) in place to verify a mother's HIV testing upon admission. While this represents an increase from 42 percent in 2007, the number of hospitals with WP/SO for HIV testing continues to be less than those with WP/SO in place for hepatitis B and syphilis screening (94 percent and 73 percent, respectively).

In recent years, MDCH has become aware of several cases of late perinatal HIV diagnosis. These were cases in which the mother tested negative in early pregnancy, and the infant (prompted by the presence of AIDS-defining illnesses) was later tested and diagnosed HIV-positive.

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS) & Youth Risk Behavioral Survey (YRBS)

Overview:

As of January 2014, there were 3,392 persons living in Michigan who were ages 13-24 years old at HIV diagnosis. They comprise 20 percent of all persons reported with HIV infection in Michigan (five percent ages 13-19 years; 15 percent ages 20-24 years). The number of prevalent cases among persons ages 13-24 years at diagnosis is now higher than the number of prevalent cases among persons ages 25-29 years at diagnosis (table 8, page 112).

General risk behaviors:

Every two years, the Youth Risk Behavior Survey (YRBS) is conducted in Michigan high schools using a nationally standardized survey. Presented below are data from the 2013 survey on sexual risk behaviors and substance use behaviors that may be risk factors for acquiring HIV. Thirty-eight percent of all Michigan high school students (9-12th grade) have had sexual intercourse, 27 percent having had intercourse in the three months prior to taking the survey. Six percent of 9th-12th graders describe themselves as gay, lesbian, or bisexual. Three percent of 9-12th graders have used heroin and three percent have used methamphetamines one or more times during their life. Two percent of 9-12th graders have used a needle to inject any illegal drug into their body one or more times during their life. Focusing on 12th graders, 56 percent reported ever having had intercourse. Of students who ever had sexual intercourse, 65 percent used a condom during last sexual intercourse. Of students who had ever had sexual intercourse, 20 percent drank alcohol or used drugs before their last sexual intercourse.

There were disparities among students based on race/ethnicity. Hispanic/Latino students (grades 9-12) were more likely to have had sexual intercourse than black and white students (47, 40, and 38 percent respectively), although these differences were not statistically significant. Black students were more likely than white students to have four or more lifetime sexual partners (14 and seven percent, respectively). Black and Hispanic students were more likely than white students to have had sex before age 13 (nine, seven, and two percent, respectively). Hispanic and Black students were also more likely than white students to have used alcohol or other drugs before sex (24, 21, and 19 percent respectively) (data not shown in tables).

Sexual minority youth:

Michigan first obtained information on sexual minority youth via the state Youth Risk Behavior Survey (YRBS) in 2011. Sexual minority students were identified as those who had any same-sex sexual contact (this includes persons who had sexual contact with same-sex partners only, as well as persons who had sexual contact with both sexes). A study was conducted to assess health risk behaviors associated with these students. Only sexually active students (students who had at least one sexual experience in their lifetimes) were included in the analysis. A total of 250 students (12 percent of all sexually active students) had experienced a same-sex sexual encounter. These students were more likely to stay home from school because they believed they would be unsafe. Students who had same-sex sexual contact were at a higher risk for reporting bullying at school or online compared to students who had opposite-sex sexual encounters only. They were also more likely to report being the victims of forced sexual intercourse. Associations were also found between sexual minority students and physical fights and physical abuse by a significant other. However, these associations may have been confounded by the students also reporting being forced to have sexual intercourse. The relationship between sexual minority

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from Youth Risk Behavioral Survey (YRBS) & Michigan Disease Surveillance System (MDSS)

students, physical abuse, and forced sex may require more research to fully understand the associations.

Sexual minority students were more likely to report being depressed compared to students who had opposite-sex sexual encounters only. Risk factors, such as feeling sad or hopeless almost every day for two weeks or more, seriously considering suicide, attempting suicide, or being injured from a suicide attempt were highly associated with students who had same-sex sexual contact. Compared to students who experienced opposite-sex sexual contact only, sexual minority students reported trying substances such as cigarettes, alcohol, and marijuana before the age of 13 significantly more often. Students who had same-sex sexual contact were also more likely to report injecting illegal drugs and/or using drugs such as heroin, methamphetamines, club (rave) drugs, or prescription drugs without a doctor's prescription compared to students who had opposite-sex sexual encounters only.

Reporting sexual intercourse for the first time before the age of 13 and sexual intercourse for the first time with a partner three or more years older were highly associated with sexual minority students. Sexual minority students were also more likely to report not using a condom during their last sexual intercourse compared to students who had opposite-sex sexual encounters only.

A higher proportion of sexual minority students viewed themselves as overweight or obese and were trying to lose weight, even though they were equally likely to be overweight or obese compared to students who had opposite-sex sexual encounters only. Sexual minority students were also more likely to report attempted weight loss by fasting for more than 24 hours, vomiting, or taking laxatives than students who had opposite-sex sexual encounters only.

Uncertainty about whether they had ever been taught or admittance that they had never been taught about HIV or AIDS infection in school was highly associated with students who had same-sex sexual contact (data not shown in tables).

YRBS trends:

The Trend Analysis Report from the 2013 Youth Risk Behavior Survey showed some significant decreases in sexual behavior among students. Between 1997 and 2013, the percentage of students who ever had sexual intercourse decreased significantly (49 percent to 38 percent). There were also significant decreases in the percentage of students who had sexual intercourse for the first time before the age of 13 years and in the percentage of students who had sexual intercourse with four or more people during their life (data not shown in tables).

STDs:

STD rates are highest among teens and young adults. The STD data are shown on tables 17 and 18 (pages 122-123). In persons aged 20-24 years, the rate of chlamydia is six times higher and the rate of gonorrhea is over five times higher than the rate among the general population. Although those ages 13-24 make up only 17 percent of the population, they represent 64 percent of gonorrhea cases and 75 percent of chlamydia cases. In 2013, 40 percent of primary and secondary syphilis cases were under the age of 24, a marked increase compared to 28 percent in 2011. While rates of STDs among 13-24 year olds are higher than any other age groups, the rates of HIV in this demographic group are compa-

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from Vital Records & enhanced HIV/AIDS Reporting System (eHARS)

rably low. Also, since the rates of HIV among teens are very low, and because most teens have sex with other teens, the gonorrhea and chlamydia epidemic is perpetuated and HIV is rarely introduced into the general teen population. However, as discussed on page 101, young black MSM are becoming HIV infected at an alarming rate.

Teen pregnancy:

Teen (ages 15-19) pregnancy rates in Michigan have decreased over time, from 48 pregnancies per 1,000 females ages 15-19 years in 2000 to 41.1 pregnancies per 1,000 in 2012. Typically, the rate among teens in Wayne County (including the City of Detroit) is the highest of any county in Michigan, but in 2012 the highest rate was in Lake County (68 pregnancies per 1,000). Lake County is followed closely by Wayne and Mason counties with 67 and 64 pregnancies per 1,000 respectively, demonstrating that teen pregnancy is a rural as well as an urban concern.

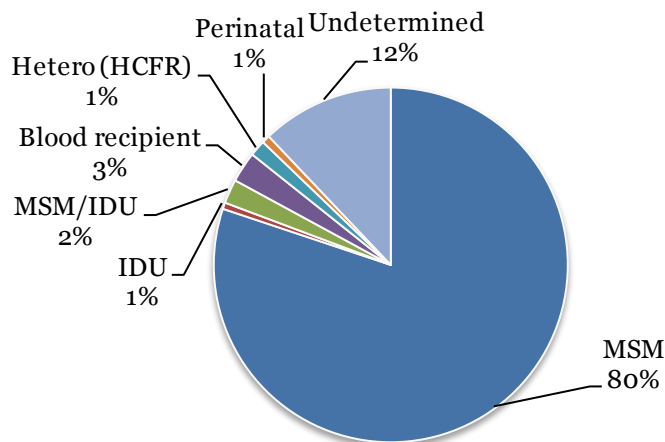
In the Detroit Metro Area (DMA), the 2012 range was from 29 pregnancies per 1,000 females ages 15-19 (Lapeer County) to 67 pregnancies per 1,000 in Wayne County. In Out-State Michigan, the 2012 rates ranged from 14 (Houghton County) to 68 pregnancies per 1,000 females ages 15-19 in Lake County (data not shown in tables).

Risk-teens (13-19 years):

In the 1980s, most HIV-positive teenagers were recipients of HIV-infected blood or blood products. However, since screening of all blood products began in 1985, this proportion has steadily declined.

Among the 898 persons living with HIV in Michigan who were ages 13-19 at the time of HIV diagnosis, 680 (76 percent) are male (table 13, page 118). Among these male cases, 82 percent are males who have sex with males (MSM), including those who also inject drugs (MSM/IDU) (figure 44). Three percent were recipients of HIV-infected blood products prior to 1985, and another three percent were injection drug users (including MSM/IDU). One percent had heterosexual contact with females with known risk (HCFR). Twelve percent had heterosexual contact with females with known risk (HCFR). Twelve percent of 13-19 year old males had undetermined risk.

Figure 44: Males ages 13-19 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 680)



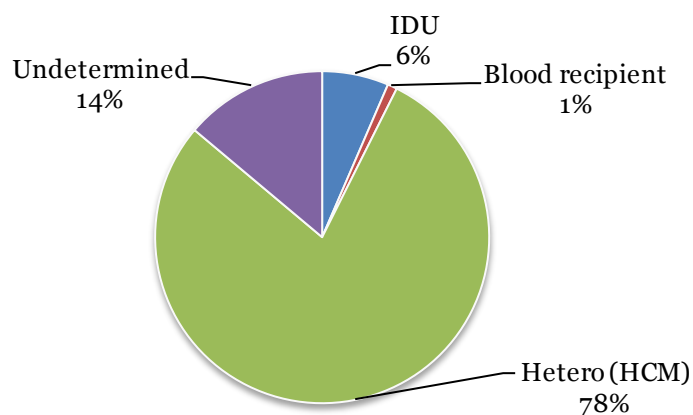
2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

The other 218 persons living with HIV in Michigan who were ages 13-19 at the time of diagnosis are female (24 percent). This is slightly higher than the proportion of all HIV-positive persons in Michigan who are female (22 percent; table 8, page 112). Of females who were 13-19 years at the time of diagnosis, over three-quarters (78 percent) have a risk of heterosexual contact (HCM). Six percent are injection drug users (IDU), and 14 percent had undetermined risk (figure 45).

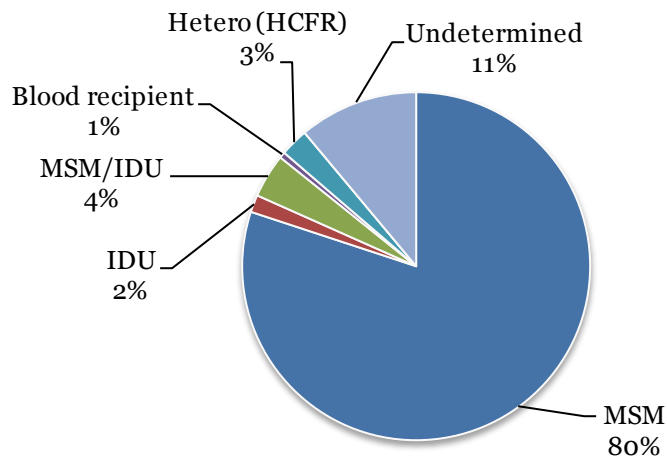
Figure 45: Females ages 13-19 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 218)



Risk-young adults (20-24 years):

Among the 2,494 persons living with HIV in Michigan who were ages 20-24 at the time of HIV diagnosis, over three-quarters (80 percent) are male (figure 46). Eighty-four percent of these HIV-positive male young adults report sex with other males (including MSM/IDU); eleven percent had undetermined risk; six percent reported IDU (including MSM/IDU); three percent had heterosexual risk (HCFR); and one percent received HIV-infected blood products.

Figure 46: Males ages 20-24 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 1,986)



2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 47: Females ages 20-24 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 508)

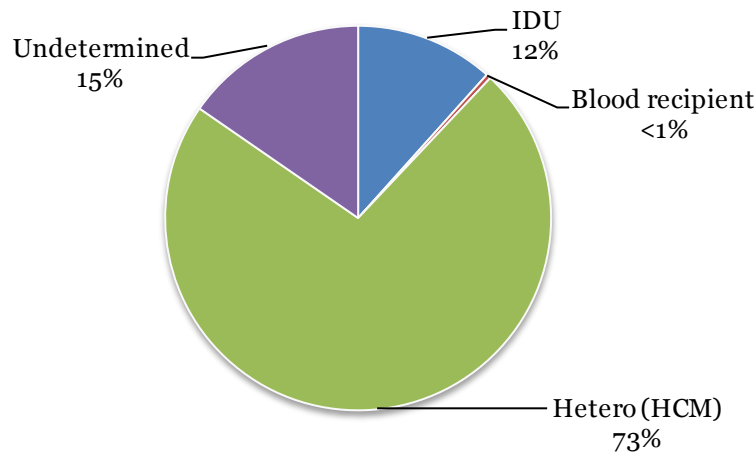


Figure 47 shows that, among the 508 females living with HIV who were ages 20-24 at the time of diagnosis, almost three-quarters (73 percent) had heterosexual risk (HCM). Fifteen percent of HIV-positive females in this age group had undetermined risk, 12 percent were IDU, and less than one percent received HIV-infected blood products.

Race/ethnicity:

Seventy-six percent of persons ages 13-19 at the time of HIV diagnosis are black, 16 percent are white, four percent are Hispanic, and five percent are of other or unknown race. Sixty-five percent of persons ages 20-24 at the time of HIV diagnosis are black, 25 percent are white, five percent are Hispanic, and five percent are of other or unknown race. Comparing these proportions with the racial/ethnic breakdown of those over 24 years at diagnosis (52 percent black, 38 percent white, five percent Hispanic, and 5 percent other or unknown race) shows that HIV-positive youth are disproportionately black (table 12, page 117).

Geographic distribution:

The majority (89 percent) of persons 13-24 years old at diagnosis live in high prevalence counties. They make up a slightly higher proportion of the total number of HIV-positive persons in high prevalence counties compared to low prevalence counties (21 percent vs. 16 percent, respectively) (see figure 3 on page 18 for high/low prevalence county classification). About two-thirds of teen (ages 13-19) cases live in the Detroit Metro Area (DMA) (data not shown in tables). While nearly two thirds of persons living with HIV in Michigan are living in the DMA, nearly three fourths of the new diagnoses among persons 13 to 19 years old are residents of the DMA (Trends). Of these DMA teens, 61 percent are living in City of Detroit.

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Viral suppression:

A common method of measuring HIV infection severity in an individual is to count the number of HIV virus copies that are present in one milliliter (mL) of blood (one mL is approximately 20 drops). The number of HIV virus copies in one mL of blood is called the viral load. The more copies of virus, the more severe the infection. A person is considered virally suppressed if he or she has less than or equal to 200 copies of virus in a mL of blood (≤ 200 copies/mL blood). The viral suppression rate of a given year is the proportion of virally suppressed persons living with HIV (PLWH) out of all PLWH who received a viral load lab test.

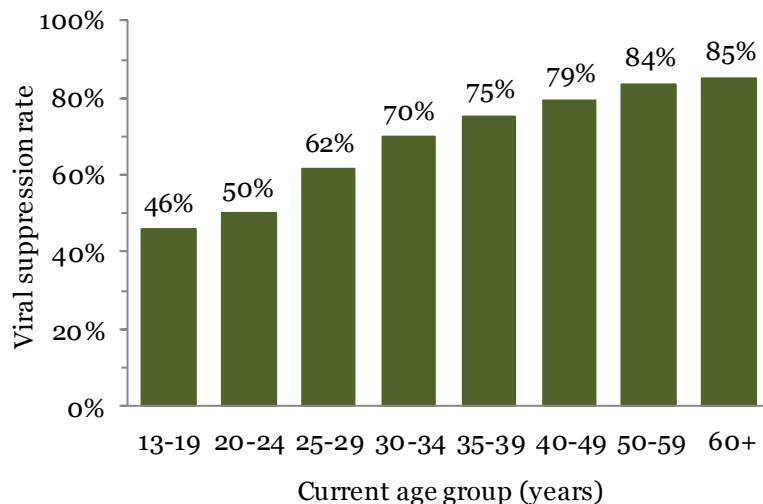
Why viral suppression is important:

Typically, when an HIV infected individual is virally suppressed it means he/she has access to medical care and is taking ARV medications regularly. Virally suppressed individuals also have better prognoses and are less likely to infect others compared to individuals with higher viral loads.

Viral load levels and age:

According to the most recent National HIV treatment cascade produced by the CDC, the proportion of PLWH in care and achieving viral suppression improves with age, leveling off around age 65. Figure 48 shows viral suppression rates among PLWH in Michigan by age group. Of PLWH in Michigan, the proportion achieving viral suppression significantly increases with age ($p < 0.001$). On average, the viral suppression rate increased 6% between each age group, with the largest increase (12%) between those 20-24 and 25-29 years old.

Figure 48: Viral suppression rates among PLWH in Michigan in 2012, by age group (n=9,551)



The significant lack of viral suppression in youth compared to older PLWH is maintained regardless of demographic or HIV diagnostic and care strata (sex, race, risk, residence, HIV non-stage 3 versus HIV stage 3 status, and number of care visits in a given year). Additionally, year of diagnosis has no effect on the significant age/viral suppression relationship. Accounting for year of diagnosis was to determine if the higher viral loads among youth were due to early diagnosed new infections. Because the year of diagnosis does not affect the age/viral suppression relationship, it is likely that this data is not influenced by acute infection.

Taking a closer look at viral suppression rates among young Michiganders living with HIV, it is apparent that black and Hispanic youth are less likely to achieve viral suppression compared to white youth (figure 49, page 62).

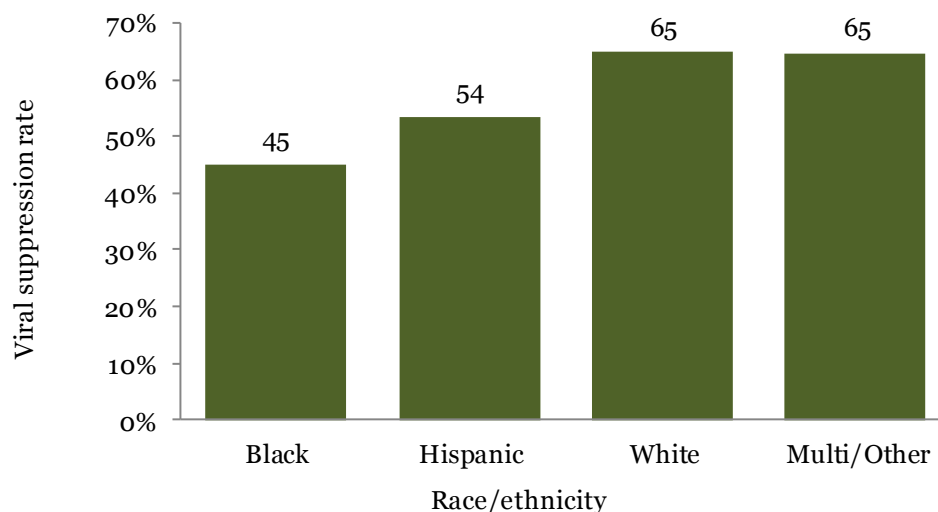
2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: Teens and young adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Interestingly, younger persons are more likely to be in care than persons aged 25 years and older—contrasting with the national data. Youth oriented care enrollment programs lacking ARV therapy adherence components may explain why youth were significantly more likely to be in care in 2012 compared to those 25 and older, but significantly less likely to achieve viral suppression.

Figure 49: Viral suppression rates among youth (13-24 year olds) living in Michigan in 2012, by race/ethnicity (n=657)



The high viral loads among youth are likely a factor behind the increasing diagnosis rates observed in these age groups. The CDC's recommendation of "treatment as prevention" is especially important among PLWH under the age of 30. While there are special, youth-oriented linkage and retention in care programs, evaluating the addition of adherence programs is important. For more information, please reference the MDCH special report on youth and viral load suppression at the following link: http://www.michigan.gov/documents/mdch/youth_vl_final_456020_7.pdf

Trends and conclusions:

The rate of new diagnoses remained stable among persons 13-19 years of age between 2008 and 2012. This is the third time in seven consecutive annual trend analyses that there was not a significant increase in the rate of new diagnoses among this group. However, the rate of new diagnoses among 20-24 year olds increased for the fourth consecutive trend report. Additionally, past decreasing rates among 35-39 year and 40-44 year olds have resulted in 13-24 year olds representing a larger proportion of new diagnoses and prevalent cases (Trends). In addition, viral suppression among youth is the lowest of all age groups. The majority of male teen and young adult cases are males who have sex with males (MSM), while the majority of female teen and young adult cases have heterosexual risk. The majority of HIV-positive persons diagnosed in these age groups are black and live in the DMA.

2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 1,432 persons living with HIV infection in Michigan who were 50 years and older at the time of diagnosis. They comprise nine percent of all reported HIV-positive persons, and over three-quarters (77 percent) are male. Fifty-two percent are black, 39 percent are white, and nine percent are Hispanic or other/unknown race (table 12, page 117).

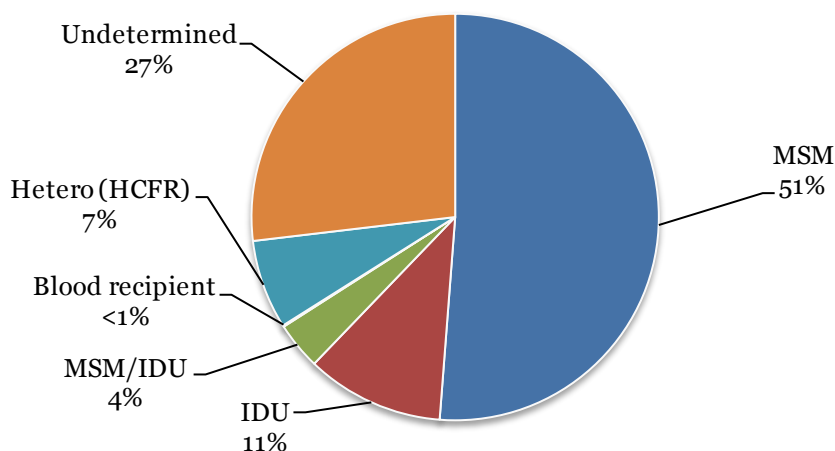
Risk-males:

When examining risk, those who were in their fifties at the time of HIV diagnosis have a different risk profile than those who were ages 60 and older. Therefore, the risks of these two populations are discussed separately.

As of January 2014, there were 904 males currently living with HIV in Michigan who were diagnosed in their 50s (78 percent of all persons 50-59 years at diagnosis). Of all persons 60 and over at HIV diagnosis, 204 are males (76 percent).

As with all other age groups (excluding 0-12 year olds and persons 60 years or older), over half of the HIV-positive males in their 50's report male-male sex (including those who also injected drugs, or MSM/IDU) and almost half (48 percent) of males 60 years or older report male-male sex. Males who were in their 50s at HIV diagnosis are more likely to be injection drug users (IDU) compared to males 60 years and older at diagnosis (15 percent vs. six percent, respectively; figures 50 and 51). This includes males with a dual risk of male-male sex and IDU (MSM/IDU). A larger proportion of males 60 years and older have undetermined risk than those in their 50s at diagnosis.

Figure 50: Males ages 50-59 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 904)

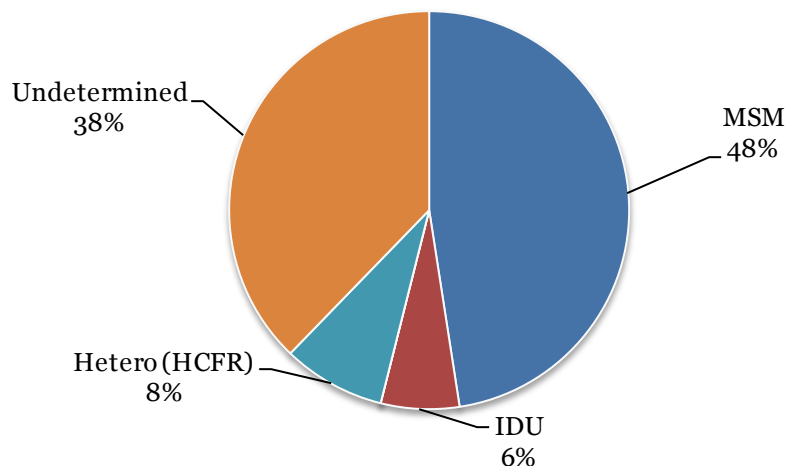


2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

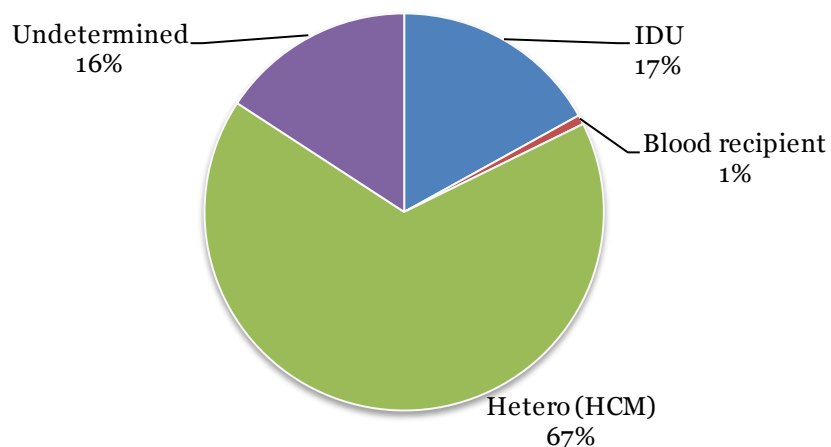
Figure 51: Males ages 60 and older at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 204)



Risk-females:

Overall, females who were in their 50s at HIV diagnosis have similar risks as females who were 60 years and older at diagnosis (figures 52 and 53). As with females in other age groups, the most common risk is heterosexual contact (HC) (67 percent and 55 percent, respectively). HIV-positive females 60 years and older at diagnosis are more likely to be blood recipients than females in their 50s at diagnosis (3 percent vs. 1 percent, respectively), and females in their 50s at diagnosis are about equally likely to be injection drug users compared to females who were 60 and older at diagnosis (17 percent vs. 16 percent, respectively). Females 60 and older at diagnosis have a larger proportion of undetermined risk than females in their 50s at diagnosis.

Figure 52: Females ages 50-59 at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 260)

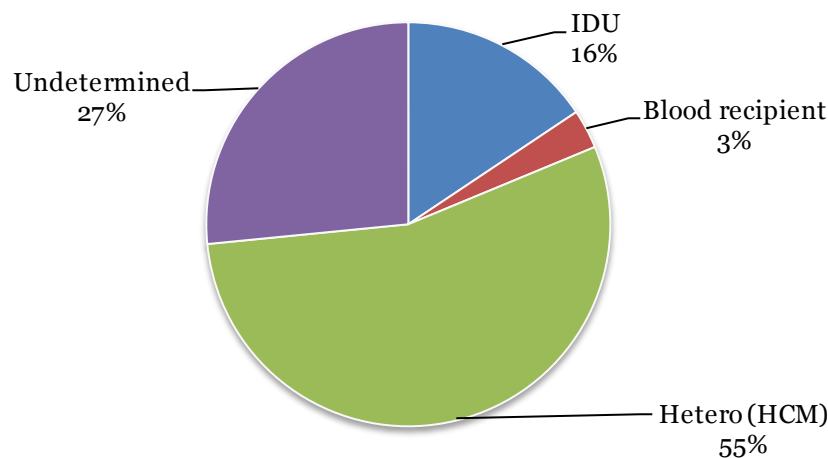


2014 Profile of HIV in Michigan (Statewide)

Description of the Epidemic by Age: 50 years and older

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

Figure 53: Females ages 60 and older at diagnosis currently living with HIV infection in MI, by risk transmission category (n = 64)



STDs:

Gonorrhea and chlamydia are largely epidemics affecting young people, with less than one percent of chlamydia cases and 2 percent of gonorrhea cases being over 50. Of the gonorrhea cases, 76 percent are male and of the chlamydia cases, 46 percent are male. In contrast, eight percent of primary and secondary syphilis cases are over the age of 50, and 97 percent are male. These individuals are more likely to be white than black (67 percent v 26 percent). Of primary and secondary syphilis cases, the highest percentage of cases age 50 or older were in Detroit or Wayne county (23 percent each), Oakland (15 percent), and Macomb county (13 percent).

Late HIV diagnoses:

Of the 16,750 persons living with HIV infection in Michigan, 54 percent (8,987 cases) have progressed to stage 3 infection. Of these, 3,723 (41 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Persons who were in their fifties at HIV diagnosis make up eight percent (679 cases) of persons living with stage 3 infection, of whom 62 percent had late HIV diagnoses. Those who were 60 years and older at diagnosis make up two percent of persons living with stage 3 infection (164 cases), of whom 70 percent had late HIV diagnoses. These two age groups have the highest proportion of late diagnoses of all age groups (table 8, page 112).

Trends and conclusions:

In Michigan, the rate of HIV diagnoses among persons who were 50 years and older at the time of diagnosis remained level between 2008 and 2012 (Trends). Although persons 50 years and older have the lowest rates of new diagnoses (except for those 0-12 years), it is important to understand the specific challenges faced by older Michiganders and to ensure that they receive information and services to help protect them from infection.

Although it is low (8 percent), males who were 50 years and older at HIV diagnosis have the highest proportion of heterosexual risk of males in any age group (table 13, page 118). This is an important distinction when preparing targeted HIV prevention and interventions.

2014 Profile of HIV in Michigan (Statewide)

Health Equity

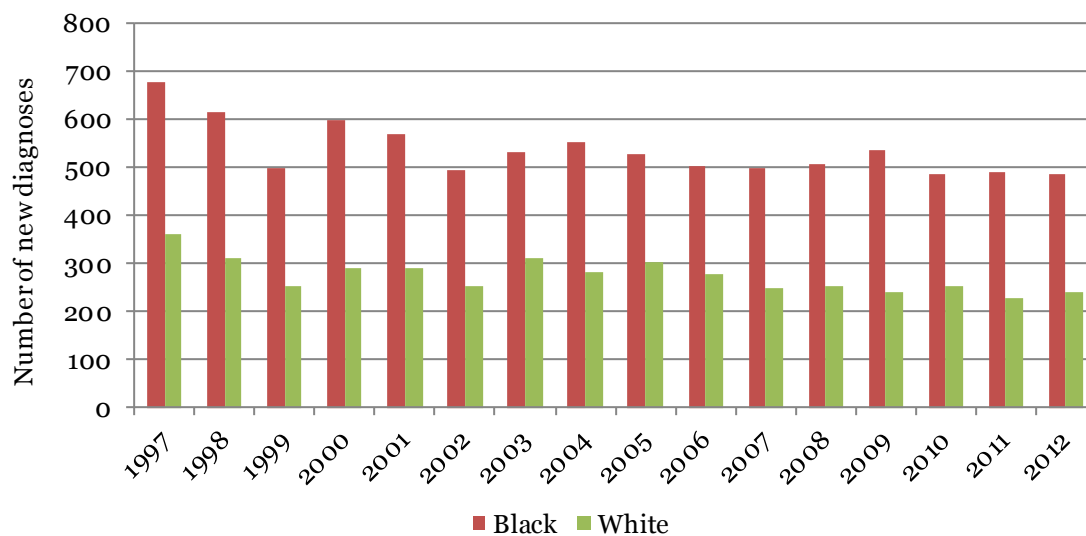
Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

The purpose of this section is to provide data that illustrates inequity that leads to disparities in HIV incidence and HIV prevalence in Michigan. There are four key terms that are important to understand how these issues affect health. Health disparities are the measured difference between two populations, regardless of the underlying reason for the difference. Health inequities are the differences in health across populations groups that are systemic, unnecessary and avoidable, and therefore considered unfair and unjust. Health equity is the absence of systemic disparities in health and its determinants between groups of people at different levels of social advantage. To attain health equity is to close the gap in health between populations that have different levels of wealth, power, and/or social prestige. Finally, social determinants of health are social, economic and environmental factors that contribute to the overall health of individuals and communities. These can include discrimination, income, education, wealth, transportation, and air quality.¹

Health inequity and health disparities are profound in HIV incidence and prevalence. As of January 1, 2014, 55 percent of Michigan's prevalent HIV/AIDS cases were African-American despite only representing 14 percent of the population. The prevalence rate is 671 per 100,000 among African-Americans compared to 77 per 100,000 among whites with a rate ratio of 9:1. This is even more profound among African-American women where the rate ratio comparing white women is 18:1 (table 8, page 112). The number of new diagnoses between African-Americans and whites has been very stable following significant decreases ending in the late 1990s. However, this data still shows a significant health disparity as the number of new cases reported among black persons is still significantly higher and remains so compared to whites (figure 54).

Figure 54: Number of new diagnoses of black persons and white persons living with HIV in Michigan, by year of diagnosis



2014 Profile of HIV in Michigan (Statewide)

Health Equity

Data from enhanced HIV/AIDS Reporting System (eHARS)

Incidence rate ratio:

In 1990 the ratio of new cases among blacks compared to new cases among whites was almost 7. It has increased over time to 10 in 2010 (table 5).

Table 5: Black versus white incidence rate by year of diagnosis

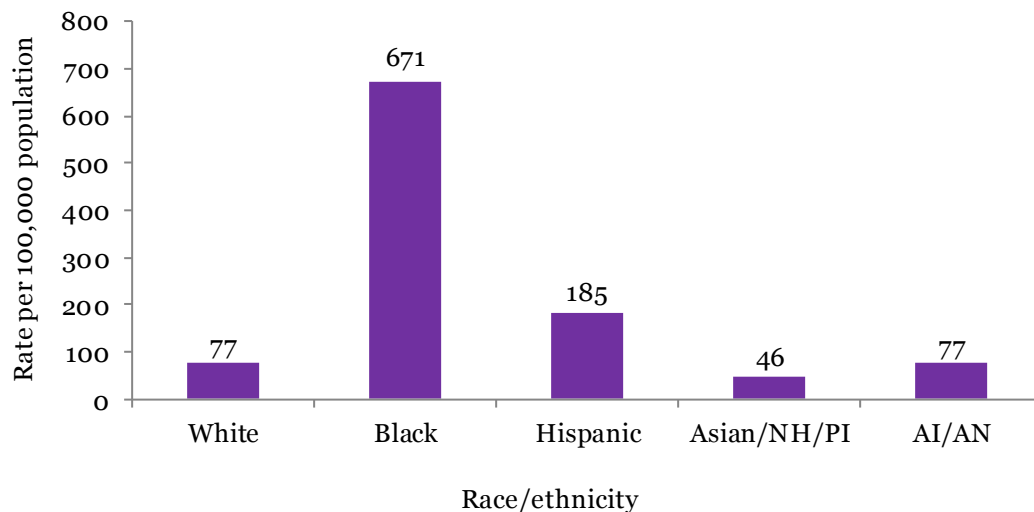
Year	Black Incidence Rate	White Incidence Rate	Rate Ratio
1990	60.03	9.05	6.63
1995	56.85	5.37	10.59
2000	40.73	3.56	11.46
2005	35.4	3.69	9.59
2010	32.85	3.16	10.4

This means that while incidence over the past several years appears to be stable overall, the gap between new infections between blacks and whites continues to grow. This is largely due to infections among young, black, MSM (Trends). HIV indicators also show a profound racial disparity such as viral load suppression (see page 61) and unmet need (see page 78).

Prevalence rate:

While black persons have the largest disparity, Hispanics also have excess morbidity compared to whites. American Indians and Alaskan Natives have the same rate per 100,000 as whites with a significantly smaller population and challenges with collecting racial data in that group. Rates among Asians, Native Hawaiians, and Pacific Islanders are the lowest at 46 per 100,000 (figure 55).

Figure 55: Reported prevalence rate of persons living with HIV in Michigan, by race, January 2014



2014 Profile of HIV in Michigan (Statewide)

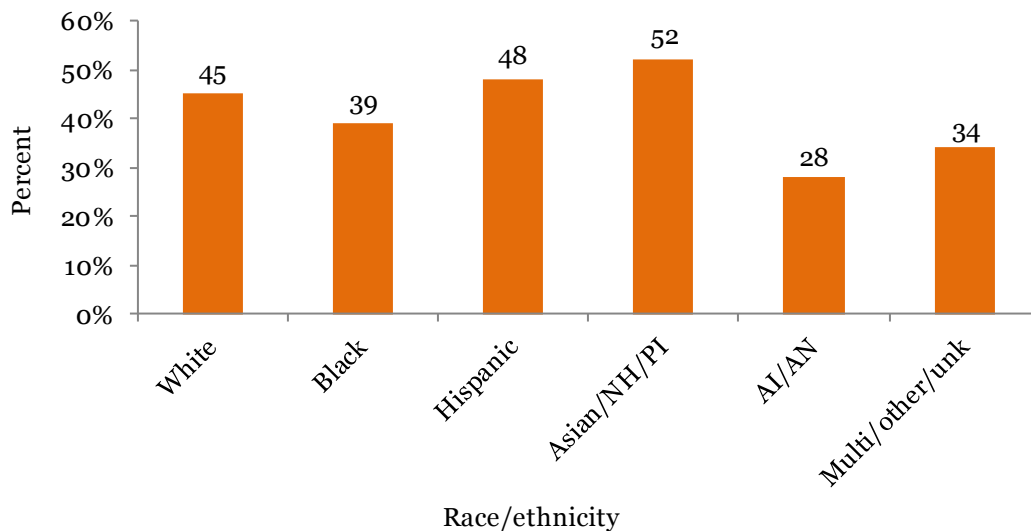
Health Equity

Data from enhanced HIV/AIDS Reporting System (eHARS) & Housing Opportunities for Persons with AIDS (HOPWA)

Late stage diagnosis:

Despite Asian/Native Hawaiians and Pacific Islanders having the lowest prevalence rates in Michigan, they have the highest rate of late stage diagnosis, or the diagnosis of stage 3 within 30 days of an initial HIV diagnosis. There is also a significant late stage diagnosis rate among Hispanics (figure 56).

Figure 56: Percent of cases with late stage diagnosis in Michigan, January 2014



Housing:

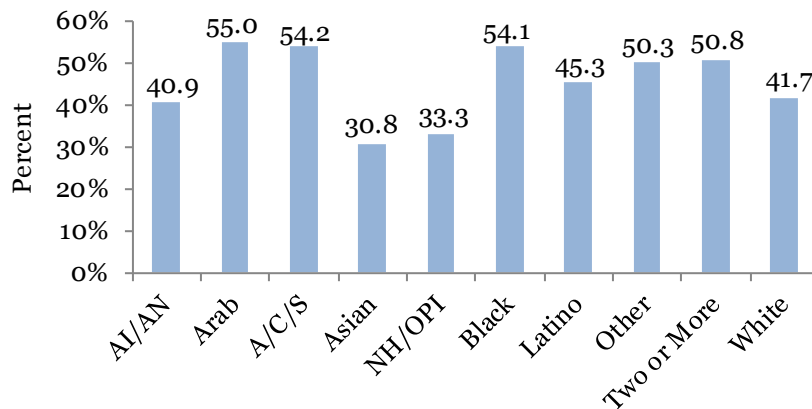
Many programs in HIV at the state and local levels seek to address issues in health equity. One such social determinant that influences HIV care is affordable housing. According to the U.S. Census, on average, 45 percent of Michigan renters are spending more than 35 percent of their annual household income on rent (figure 57, page 69).² Arab and black households have the highest percentage of cost-burdened renters (55 percent and 54 percent, respectively). Housing Opportunities for Persons with AIDS (HOPWA) is a program which seeks to provide stable housing for low-income persons with HIV/AIDS and their families. This funding comes from the U.S. Department of Housing and Urban Development (HUD) and the main grantee in Michigan is the City of Detroit. It is shown that stable housing improves access to health care, improves treatment regimen adherence, reduce risk behaviors, and helps linkages to supportive and social services. Death rates are five times lower among HIV-positive housed individuals than among those that are homeless. There are two HOPWA programs, tenant-based rental assistance which provides rental subsidies and community residential programs which provide transitional group housing for 6 months-two years. In 2013, 175 clients were served in the subsidy program and 25 in the residential program.

2014 Profile of HIV in Michigan (Statewide)

Health Equity

Data from Housing Opportunities for Persons with AIDS (HOPWA) & US Census Bureau

Figure 57: Percent of occupied rental housing units where rent is 35% or more of household income, by race/ethnicity*

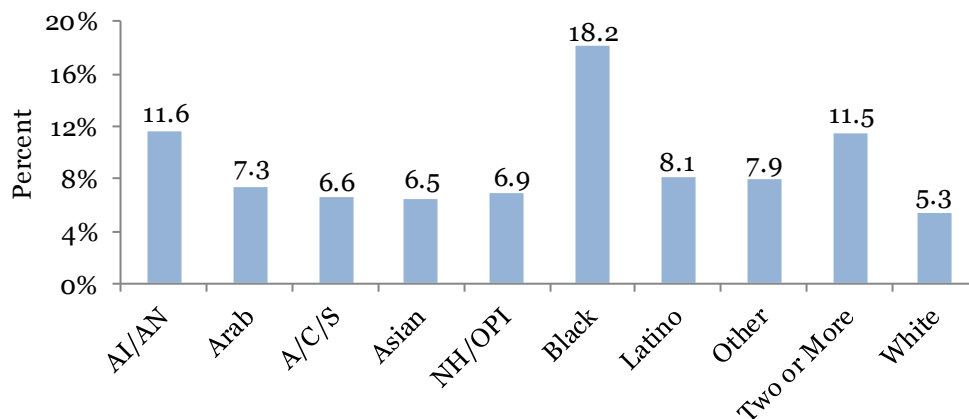


*A/C/S: (1) Assyrian Chaldean or Syriac, (2) Latino: Hispanic, Latino, or Spanish origin, All groups are Non-Hispanic except Arab, A/C/S and Latino

Another issue which affects health is transportation. On average, 7.2 percent of occupied households in Michigan do not have a vehicle available for use (figure 58). The population with the highest percentage of households with no vehicles is African Americans (18.2 percent), American Indians (11.6 percent), multiracial individuals (11.5 percent), and Latinos (8.1 percent). African Americans are 2.5 times as likely as the average Michigan household not to have a vehicle.² Ryan White Part A and B programs provide transportation services. In 2013, the

Part A program serviced 611 HIV+ individuals with over 5,000 trips via vouchers for handicap vans, bus tickets, cabs, and driver services. In 2013, the Part B program allocated nearly \$100,000 for transportation costs that covered over 1,000 infected clients for over 4,000 trips. This ensures that HIV positive individuals reach medical appointments and ensures continuous laboratory and ART services.

Figure 58: Percent of occupied housing units with no vehicle available, by race/ethnicity



¹ Health Equity Road Map: http://www.michigan.gov/mdch/0,4612,7-132-2940_2955_2985-299309--,00.html

² Michigan Health Equity Status Report: Focus on Maternal and Child Health, 2013: <http://prime.mihealth.org/files/2013-11-05/HE.Status.Rpt.2013.pdf>

2014 Profile of HIV in Michigan (Statewide)

HIV Testing and Prevention

Data from HIV Events System (HES)

HIV Prevention:

Annually, the Michigan Department of Community Health (MDCH) receives funding from the Centers for Disease Control and Prevention to support HIV counseling and testing as well as other prevention interventions. Funding is delineated as Category A and B. Category A primarily supports tests administered by local health departments and MDCH funded community based organizations (CBOs).

Category B funding supports expanded HIV testing in healthcare settings. These funds support testing in Michigan's highest incident jurisdiction: the City of Detroit. Currently four facilities receive this funding: Detroit Receiving Hospital Emergency Department, Henry Ford Health Systems Emergency Department, Advantage Health Centers, and Wayne State University, University Physicians Group.

Combining Category A and B tests, in calendar year 2013, the HIV Prevention Program funded nearly 64,000 HIV tests for collaborating agencies. Approximately 87 percent of these tests occurred in healthcare settings. The overall percent of cases found to be newly positive was 0.5 percent. Thirteen percent (8,302) of Michigan's funded testing events occurred in emergency rooms, 44 percent occurred in STD clinics, nine percent occurred in community health centers, nine percent occurred in other healthcare settings, and 13 percent occurred in CBOs and other non-healthcare venues. The highest positivity was found in CBOs (0.84 percent), followed by other non-healthcare sites (0.48 percent), emergency departments (0.39 percent), and STD clinics (0.30 percent).

HIV testing in healthcare settings:

The MDCH HIV Prevention Unit is currently partnering with four (4) health care hospital setting facilities, Henry Ford Health Systems Emergency Department (HFHS Detroit), Advantage Health Care (Detroit), Detroit Receiving Hospital Emergency Department (DRH ED), Michigan Primary Care Association (MPCA Lansing) under Category B funding. Because the prevention unit funds a majority of its hospitals under this category of funding, most of the testing events will be in a health care (specifically an emergency room) setting. These facilities are located in geographic areas characterized by high HIV prevalence; serve populations at increased behavioral risk for HIV; a majority of patients served by these facilities are black and/or Hispanic; and a sizeable proportion of their patient populations are uninsured or are covered only by Medicaid.

Ongoing collaboration of ER hospital testing facilities and community based organizations is still very effective in linking HIV infected clients identified in hospital settings to support and prevention services in the community. Early Intervention Services remains, and is proving to be a useful resource for some patients who may experience barriers to accessing and maintaining care and treatment services.

The Division of Chronic Disease and Injury Control (DCDIC) at MDCH remains highly flexible in its approach to supporting HIV testing in health care settings and works individually with each partner agency as needed, to support them in optimizing available resources and maximizing HIV testing opportunities (e.g., changing clinic flow; assessing reasons for patients declining testing; conducting yield analysis to identify the most productive venues for testing), thereby enabling individual agencies to meet their program objectives and performance indicators.

2014 Profile of HIV in Michigan (Statewide)

HIV Testing and Prevention

Data from Integrated Testing Project (ITP)

Integrated Testing Project:

Injection drug use (IDU) is a risk factor for both HIV and hepatitis C (HCV). As of January 2014, 12 percent of reported persons living with HIV/AIDS in Michigan had injection drug use exposure. In 2012, 31 percent of chronic HCV and 53 percent of acute HCV cases reported in Michigan reported IDU, when data was available. Drug use plays other, less recognized roles in HIV transmission through both increased likelihood of engagement in high-risk sexual activity and altered physiological susceptibility to infection. Substance abuse also increases risk for other sexually transmitted diseases (STD). Nationally, having an STD in the past year was more common among persons aged 18 to 25 who used alcohol and/or illicit drugs than those who used neither.

The Integrated Testing Project (ITP) is a multi-year demonstration project, funded by the Center for Disease Control and Prevention, to provide HIV, HCV, gonorrhea, and chlamydia testing in substance use disorder (SUD) facilities. The goal is to develop, implement, and evaluate a project that will: 1) provide integrated testing and counseling on-site in residential substance use disorder treatment programs and methadone programs and 2) develop and provide effective linkages to care for clients who test positive.

In January 2013, a competitive request for applications was released by the State of Michigan. Twelve SUD treatment programs were ultimately selected to participate in the project. Selection was based on the following: 1) Located in, or primarily serve clients from Substance Abuse Coordinating Agencies (CAs) identified as High Prevalence for Communicable Disease CA Regions by MDCH, Bureau of Substance Abuse and Addiction Services; designation was based on HIV/AIDS incidence and prevalence, tuberculosis cases, projected HCV cases, and trend data for IDU admissions, and 2) Located in counties designated as “high incidence” counties for STDs by MDCH.

The project addresses the National HIV/AIDS Strategy goals of: 1) preventing new infections by providing HIV testing to clients in SUD treatment, 2) increasing access to care by working with treatment programs to formalize relationships with HIV providers and effectively link clients to care, and 3) reducing disparities by screening high-risk African Americans (AA) and Latinos; AA and Latinos accounted for 26% percent of admissions to Michigan SUD treatment programs in 2013.

Full implementation of the project was completed in May, 2014.

2014 Profile of HIV in Michigan (Statewide)

HIV Care

Data from Michigan Ryan White Program

Ryan White:

The Ryan White HIV/AIDS Treatment Extension Act of 2009 (Public Law 111- 87, October 30, 2009) was first enacted in 1990 as the Ryan White CARE (Comprehensive AIDS Resources Emergency) Act to assists individuals living with HIV/AIDS who lack the financial and/or health coverage resources. Michigan receives funds through Parts A, B, C, D, and F (table 6) from the Department of Health and Human Services - Health Resources and Services Administration (HRSA).

Funds are distributed across Michigan through various parts (see table below) to help communities increase the availability of primary care and support services for people living with HIV. These dollars are utilized as the funds of last resort.

Table 6: Ryan White Parts A-F, description and grantees

	Description	Grantees
Part A	Funds are allocated to Eligible Metropolitan Areas (EMA) heavily impacted by the epidemic. At least 75% of all Part A funds must support core medical services. Funds are also available for Minority AIDS Initiative which strengthens organizational capacity to expand HIV-related services in minority communities.	Detroit Health and Wellness Promotion
Part B	Funds states and U.S. territories and includes: Part B base and supplemental grants and resources earmarked for AIDS Drug Assistance Programs (ADAP).	MDCH
Part C	Part C funds are allocated to local clinics for outpatient HIV early intervention services (EIS).	Detroit Community Health Connections, St. Mary's Special Immunology, University of Mich., Wayne State University
Part D	Part D is used to coordinate and enhance services for women, infants, children, and youth (WICY).	Ingham County Health Department, MDCH
Part F	AIDS Education and Training Centers (AETC) that provide education and training for health care providers who treat people with HIV/AIDS.	Wayne State University

Ryan White service categories:

Michigan's HIV service delivery system is focused on viral load suppression and improved health outcomes through linkage, engagement, and retention of HIV clients in care. Services are divided into two categories: (1) Core services, which utilize 75 percent of funding, include outpatient and ambulatory medical care (including labs); stage 3 pharmaceutical assistance; oral health services; early intervention services; medical case management, medical nutrition, mental health and outpatient substance abuse treatment; (2) Support services, which utilize 25 percent of funding, include non-medical case management; outreach; emergency financial assistance; food bank; health education/risk reduction; medical transportation; housing services; linguistic services; outreach services; psychosocial support; rehabilitations services and treatment adherence counseling.

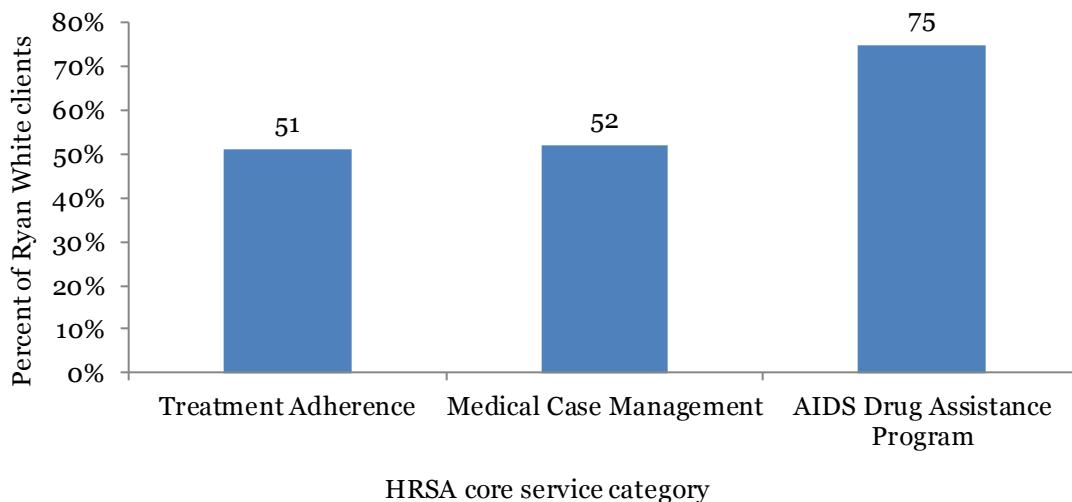
2014 Profile of HIV in Michigan (Statewide)

HIV Care

Data from Michigan Ryan White Program

A statewide client-level data system known as CAREWare documents the populations receiving services and the quantity and types of services provided by agencies receiving Ryan White funds. From January to December 2013, 5,400 de-duplicated clients were reported to have received care services. The three most utilized core services by Ryan White clients in Michigan were: 4,057 (75 percent) clients received drug assistance, 2,829 (52 percent) of clients received medical case management services and 2,741 (51 percent) clients received treatment adherence services (figure 59).

Figure 59: Most utilized core services of Ryan White clients*



*CAREWare data only, categories are not mutually exclusive

Ryan White Part B services:

MDCH administers Part B funds for the entire State. An individual is eligible for MDCH-funded Ryan White services if he/she meets the following criteria: (1) Must be HIV-positive, (2) Must reside in Michigan, (3) Must be low income (not to exceed 450% of Federal Poverty Level), and (4) Must be underinsured or uninsured for applicable Ryan White services that are reimbursable through third party payers.

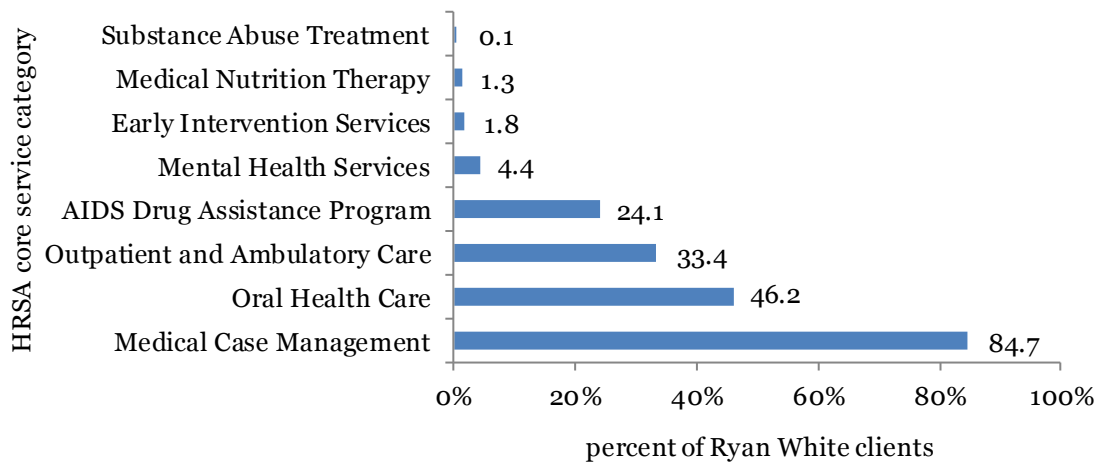
In calendar year 2013, 2,788 clients received care funded by Part B. Core services utilized by Ryan White Part B clients are highlighted in figure 60 on page 74. Eighty-five percent (2,361) of the Part B clients received medical case management services, making it the number one service category utilization for 2013.

2014 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-positive-Persons in Care

Data from Medical Monitoring Project (MMP)

Figure 60: Ryan White Part B clients served by service category*, January 1 - December 31, 2013

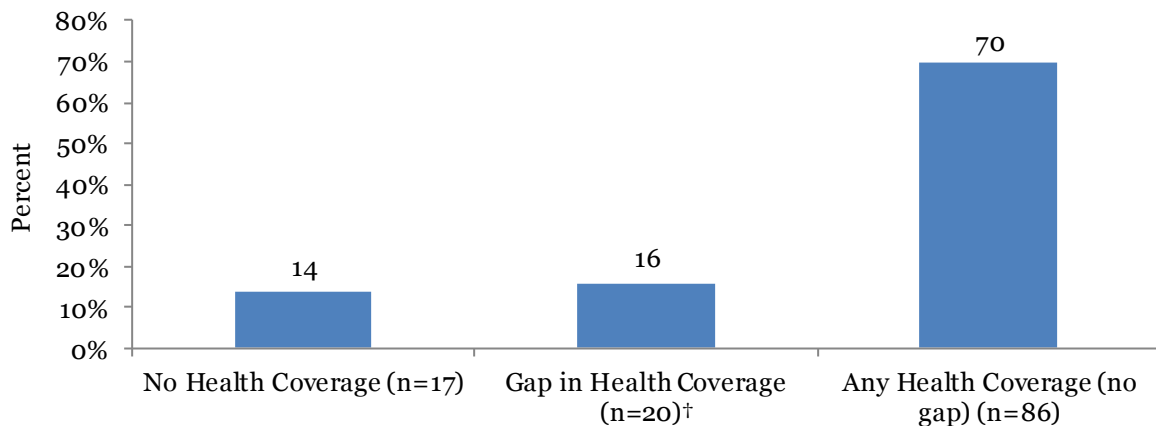


*CAREWare data only, categories are not mutually exclusive

Health insurance coverage:

Among HIV-positive persons interviewed for the Medical Monitoring Project (MMP), the majority (70 percent) had health insurance coverage and no gap in coverage in the past 12 months (figure 61). Some persons had a gap in health coverage in the past 12 years (16 percent), while 14 percent had no health coverage in the past 12 months. This was consistent with data found through medical record abstractions, which indicated that 17 percent had no documentation of medical coverage and 83 percent of persons had at least one documented source of medical coverage.

Figure 61: Health coverage* in the 12 months prior to interview among HIV-positive persons in care (MMP, 2010) (n=123)*



*Self-reported health coverage in response to the question, "During the past 12 months, have you had any kind of health insurance or health coverage? This includes Medicaid and Medicare."

[†] Self-reported gap in health coverage in response to the question "During the past 12 months, was there a time that you didn't have any health insurance or health coverage?"

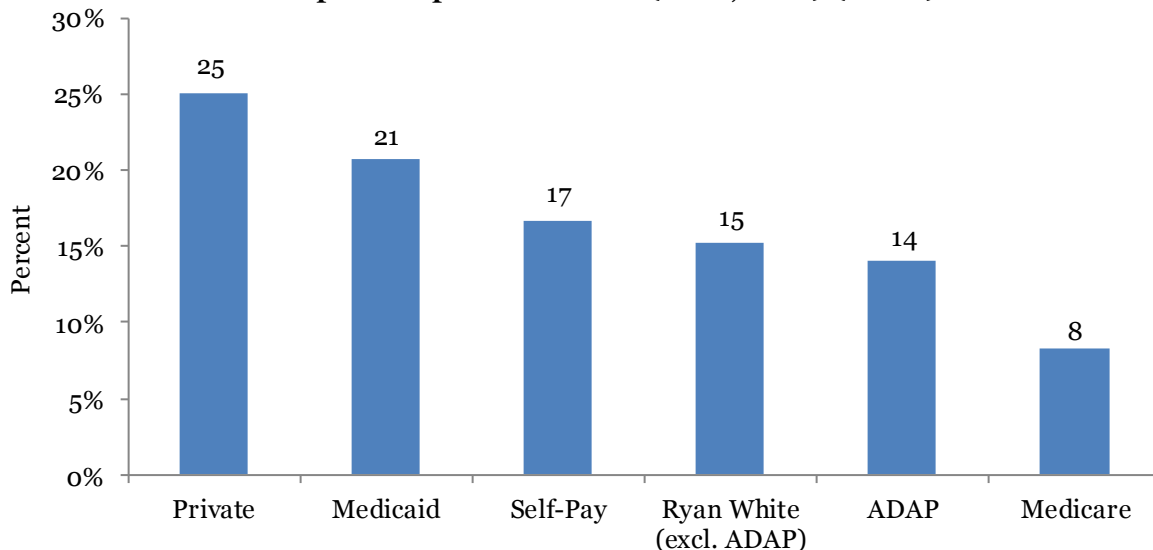
2014 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-Positive Persons in Care

Data from Medical Monitoring Project (MMP)

Private insurance was the most frequently documented source of medical coverage, followed closely by Medicaid (figure 62). Seventeen percent of persons had documentation of self-pay.

Figure 62: Type of medical coverage* noted in medical records of HIV-positive persons in care (MMP, 2010) (n=221)



*Categories are not mutually exclusive.

Use of services:

In the 12 months prior to MMP interview, the median number of outpatient visits among HIV-positive persons in care was seven (range: 1-39 visits). Four percent of persons interviewed had documentation of only one outpatient visit, and 11 percent had at least one inpatient visit. Five percent of persons interviewed had more than one inpatient stay, where the median length of stay was four days (range: <1-37 days).

Persons interviewed for MMP were also asked about services other than health care. Figure 63 (page 76) shows the most commonly used services named by HIV-positive persons during their interviews; HIV case management (53 percent) and public benefits (52 percent). Medication adherence services were the least frequently named service.

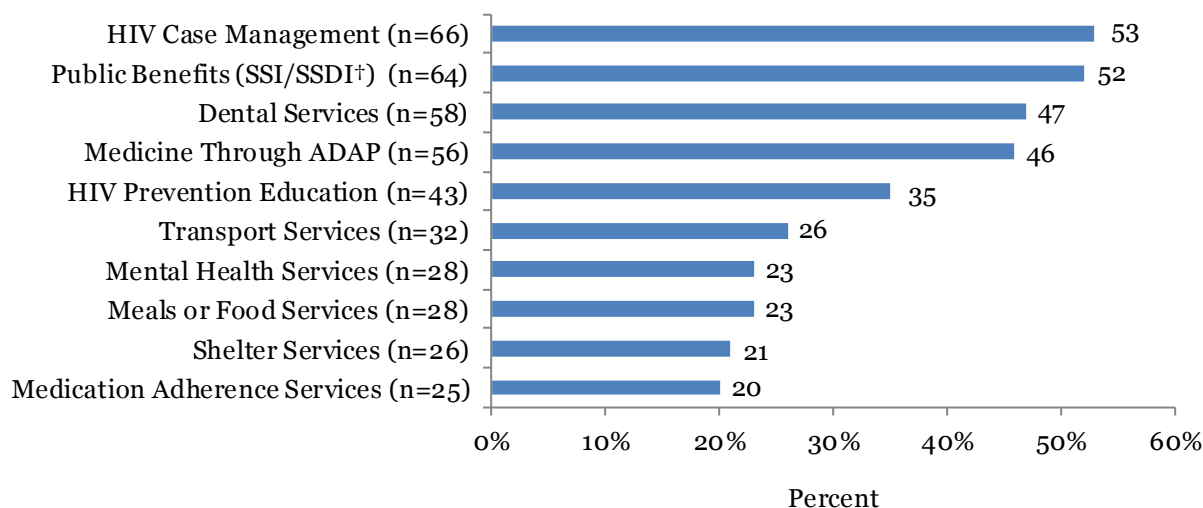
Medical records were also reviewed for documentation of auxiliary services provided during visits to HIV care providers (figure 64, page 76). The most common documented auxiliary service provided during visits to HIV care providers during the surveillance period was HIV Case Management (21%). Education sessions referred to any individual or group sessions specifically designed to educate the patient about a particular behavior and/or health issue; it did not have to be HIV-related, and was the second most common documented auxiliary service provided during HIV care provider visits during the surveillance period at eleven percent.

2014 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-Positive Persons in Care

Data from Medical Monitoring Project (MMP)

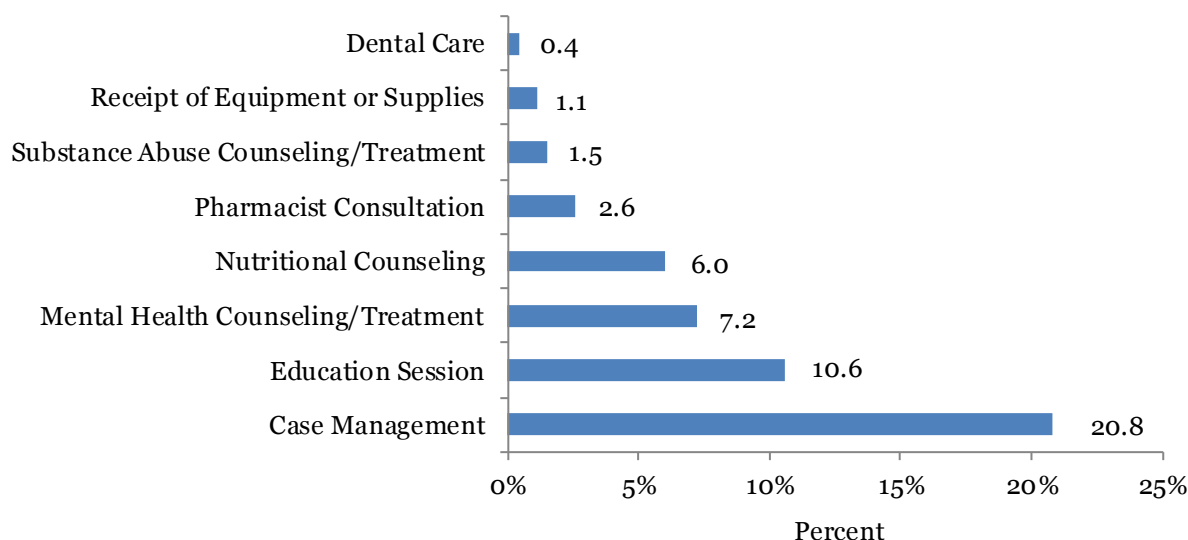
Figure 63: Top 10 most commonly used services* during 12 months prior to interview among HIV-positive persons in care (MMP, 2010) (n=123)



*Categories are not mutually exclusive.

†Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI).

Figure 64: Other services provided during 12-month surveillance period at HIV care facilities to HIV-positive persons in care (MMP, 2010) (n=265)



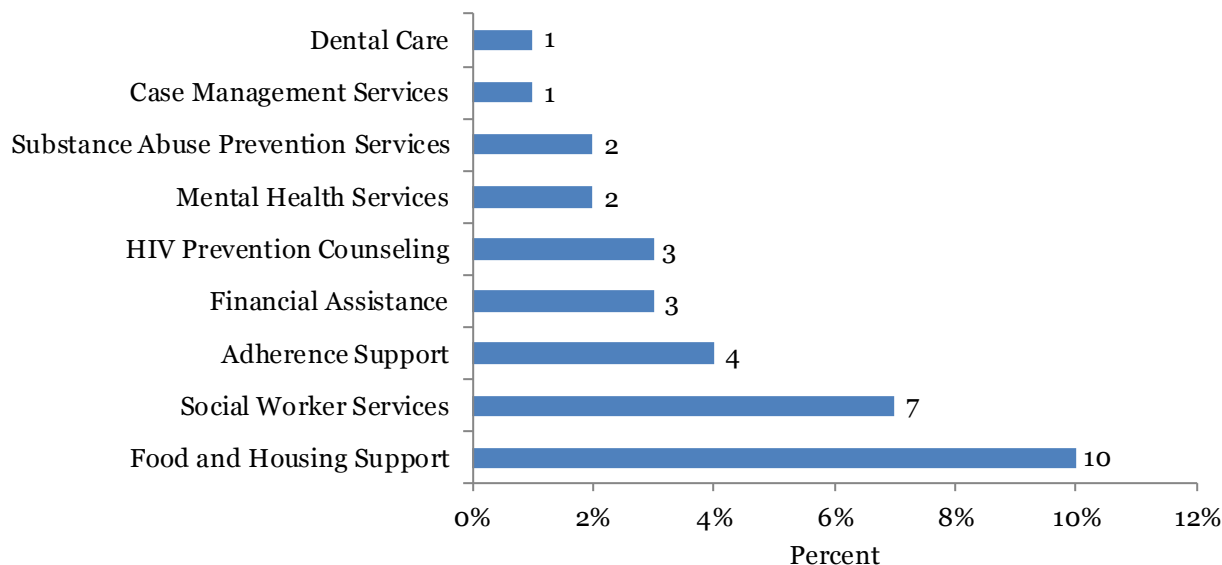
About 20 percent of HIV-infected persons had documentation of at least one referral during the surveillance period. The most common referral was for food and housing support (10 percent), followed by social work services (seven percent) (figure 65, page 77). Dental care and case management services were the least frequent referrals (one percent).

2014 Profile of HIV in Michigan (Statewide)

Service Utilization of HIV-Positive Persons in Care

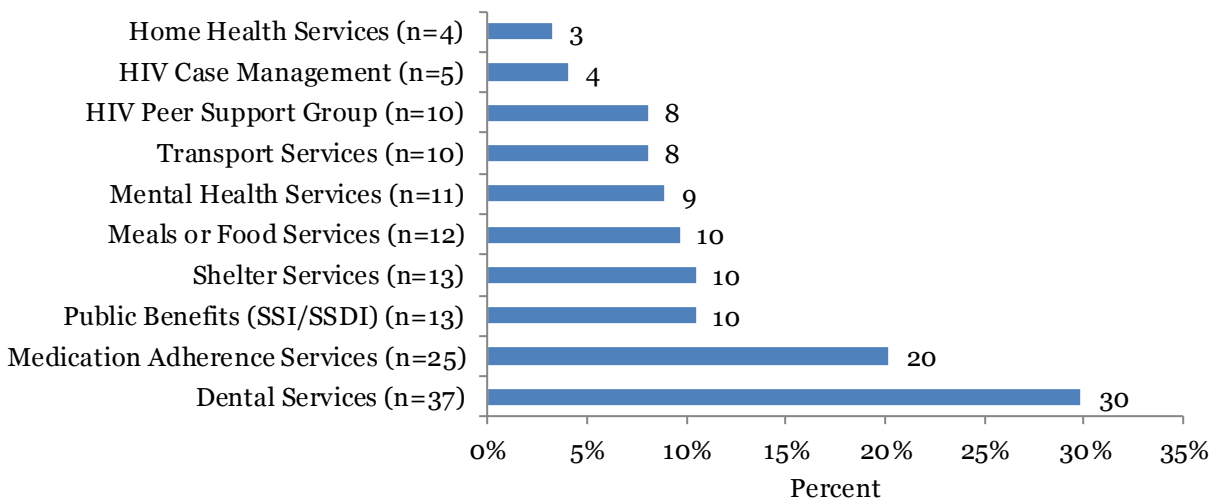
Data from Medical Monitoring Project (MMP)

Figure 65: Referrals made during 12-month surveillance period to HIV-positive persons in care (MMP, 2010) (n=265)



About 48 percent (n=59) HIV-positive persons had at least one unmet service need in the 12 months prior to the interview (figure 66). The most common service needed but not received was dental services (30 percent of persons interviewed), followed by medication adherence services (20 percent).

Figure 66: Top 10 services needed but didn't receive during 12 months prior to interview among HIV-positive persons in care (MMP, 2010) (N=124)



2014 Profile of HIV in Michigan (Statewide)

Unmet Need and Time to Care

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

For unmet need analysis, a laboratory result for a CD4 count and/or CD4 percent and/or a viral load (VL) test during a 12-month time period is used as a proxy for medical care. Those who did not receive medical care were considered to have unmet need. For this report, unmet need was calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and had not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (fiscal year 2013). Table 15 on page 120 shows the overall proportion of unmet need for various demographic groups. In total, 32 percent of HIV-positive persons in Michigan had unmet need (a slight decrease from 36% in 2012). The highest levels of unmet need were among persons with HIV non-stage 3 (38 percent), Hispanics (44 percent), Asians/Native Hawaiians/Other Pacific Islanders (41 percent), injection drug users (IDU) (39 percent), persons who were 20-29 years at diagnosis (36 percent), and persons currently living in Berrien County and Genesee County (excluding prisoners). It is important to note that even among groups with the highest levels, many decreases in the proportion of unmet need have been seen since 2012, suggesting that more people are being successfully linked to care and retained in care.

Risk:

Injection drug users (IDU) had the highest proportion of unmet need (39 percent), followed by persons with undetermined risk (36 percent) (figure 67). The lowest proportion of unmet need was among persons infected perinatally or through heterosexual contact (24 percent and 28 percent, respectively).

Figure 67: Persons living with HIV in Michigan with unmet need, by risk transmission category, January 2014

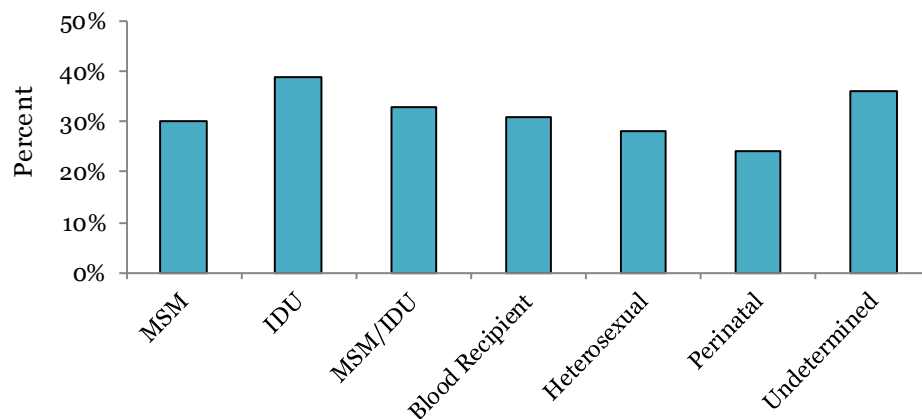
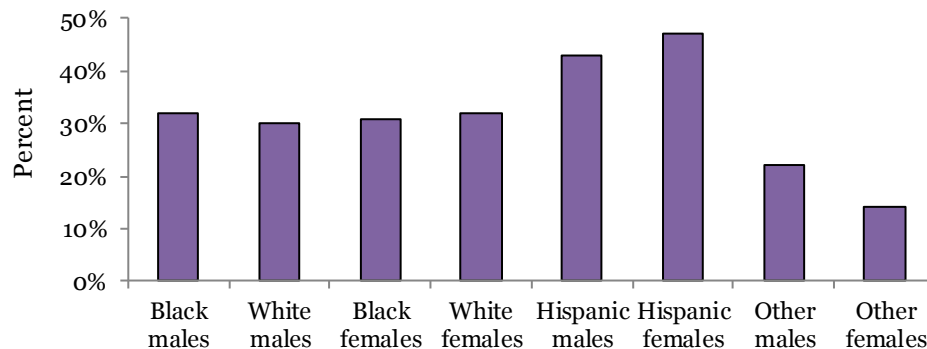


Figure 68: Persons living with HIV in Michigan with unmet need, by race/sex, January 2014



Race/ethnicity and sex:

Hispanics had the highest proportion of unmet need of any racial/ethnic group (44 percent), followed by Asians/Native Hawaiians/Other Pacific Is-

2014 Profile of HIV in Michigan (Statewide)

Unmet Need and Time to Care

Data from enhanced HIV/AIDS Reporting System (eHARS)

landers (41 percent). Overall, males and females had somewhat equivalent levels of unmet need (32 percent vs. 31 percent, respectively). Examining race/sex breakdowns, however, reveals the disproportionate levels of unmet need among different groups (figure 68). The highest proportion of unmet need during this period was among Hispanics of both sexes, with 47 percent of HIV-positive Hispanic females and 43 percent of Hispanic males not having received care during FY 2011. The lowest proportion of unmet need was among females of multi-, other, or unknown race/ethnicity (14 percent).

Current age:

The highest proportion of unmet need was among persons who were 35–39 years and those 65 years of age and older as of January 2014, while the lowest proportion was among persons who were 0–12 years. Children may be eligible to receive care through their parents' insurance or may qualify for government-funded health care, such as Medicaid, reducing the likelihood of unmet need (data not shown in tables).

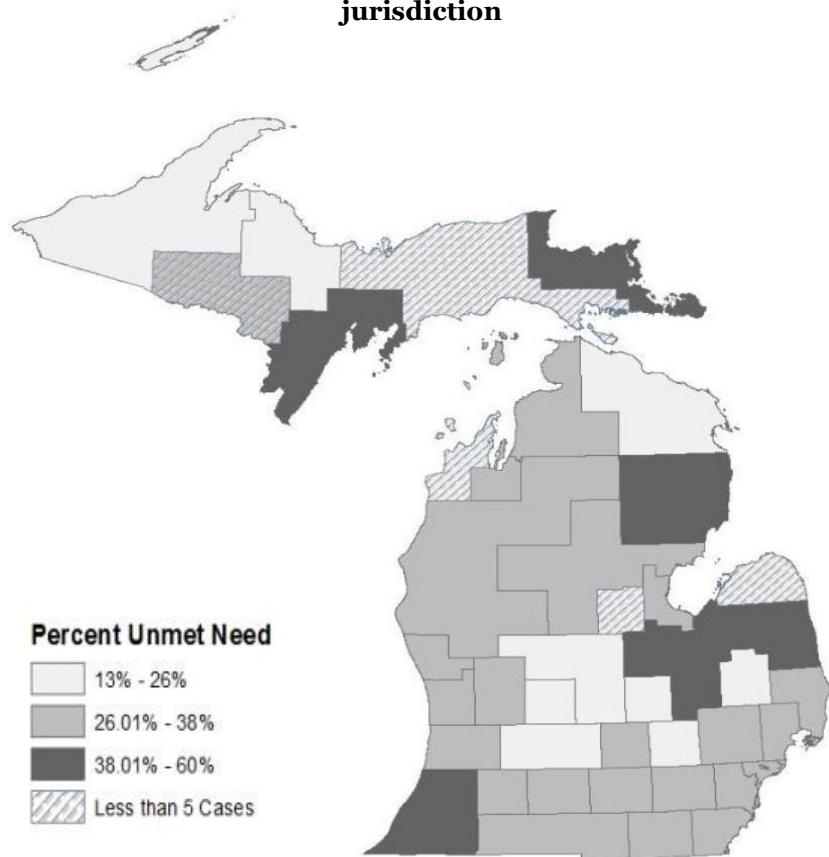
Age at HIV diagnosis:

Persons who were diagnosed between the ages of 20 and 29 years had the highest proportion of unmet need (36 percent), with 30–34 year olds having the second highest proportion at 34 percent. Persons who were diagnosed when they were 50–59 years had the lowest proportion of unmet need (23 percent) (table 15, page 120).

Geographic distribution:

In Michigan, 63 percent of HIV-positive persons reside in the Detroit Metro Area (DMA), 34 percent reside in Out-State Michigan, and the remaining three percent are in prison or have an unknown residence (table 8, page 101). The level of unmet need in the DMA was 31 percent, which is comparable to the unmet need in Out-State Michigan (32 percent). When broken down by county, Berrien had the highest proportion of unmet need at 46 percent, followed by Genesee County at 40 percent. Lapeer had the lowest proportion (23 percent) (figure 69 and table 15).

Figure 69: Percent unmet need by local health department jurisdiction



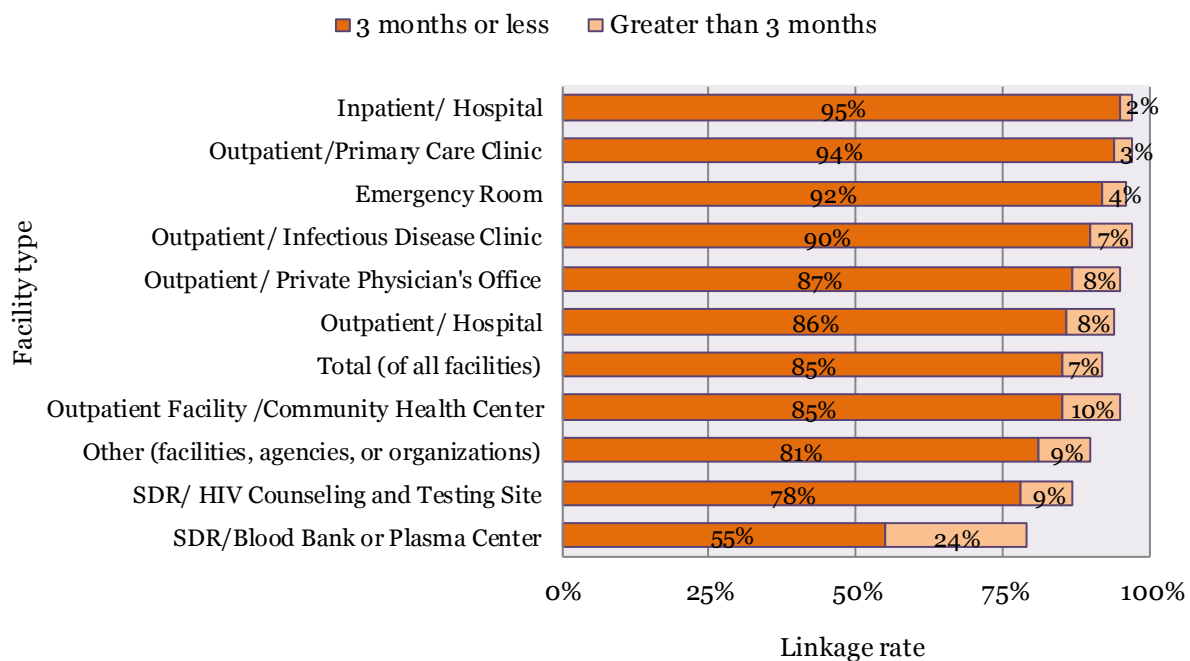
2014 Profile of HIV in Michigan (Statewide)

Linkage to Care Rates by Facility Types

Data from enhanced HIV/AIDS Reporting System (eHARS)

CD4 and/or viral load (VL) lab tests are proxies for HIV-related clinical care visits. The first CD4 and/or VL lab test performed on or after the date of HIV diagnosis is used to estimate the time between a person's diagnosis and their linkage to care. The linkage rate for any given facility is a measure of the annual count of newly diagnosed persons at the facility who have had a CD4 and/or VL lab test in relation to all new diagnoses at the facility (Facility-Based Linkage Rate of year X=[new diagnoses linked to care in year X at a facility/all new diagnoses at the facility in year X]*100). This profile groups facilities by type and presents collective linkage to care rates for HIV diagnoses in Michigan during 2012 (figure 70). All 2012 diagnoses are also evaluated for a second lab test in order to explore establishment in care (figure 73). Please see appendix B on page 237 for a detailed description of each facility type.

Figure 70: Linkage to care rates of HIV diagnoses in Michigan by facility type



For the analysis, new diagnoses reported at each facility are grouped into three categories—three months, greater than three months, or never linked to care (not shown in figure 70) — based on the time elapsed between diagnosis and linkage to care.

As 2012 data show, the Michigan health facilities linking the highest number of new HIV diagnoses to care in the shortest amount of time are those where providers likely ordered a CD4 and/or VL lab test on the date of diagnosis (these facilities include inpatient hospitals, outpatient primary care clinics, emergency rooms, and infectious disease clinics). Screening, Diagnosis, and Referral centers, which do not offer ongoing health services, have the lowest linkage to care rates. Combined into a single group, all of Michigan's health facilities connect 85 percent of new diagnoses to care within three months of the date of diagnosis and an additional seven percent after three months.

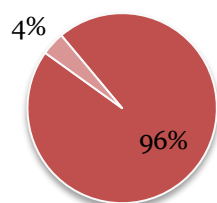
2014 Profile of HIV in Michigan (Statewide)

Linkage to Care Rates by Facility Types

Data from enhanced HIV/AIDS Reporting System (eHARS)

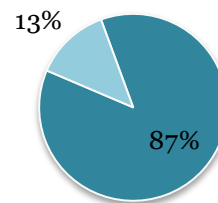
On a promising note, the proportion of HIV diagnoses at each facility type that have not been linked to care is small (figure 71). However, the analysis also shows that HIV counseling and testing sites have linkage rates that are low in relation to rates of other sites incorporating care referral (figure 72).

Figure 71: Inpatient/outpatient facilities: percent linked/not linked to care



■ Linked to care ■ Not linked to care

Figure 72: HIV counseling and testing sites: percent linked/not linked to care

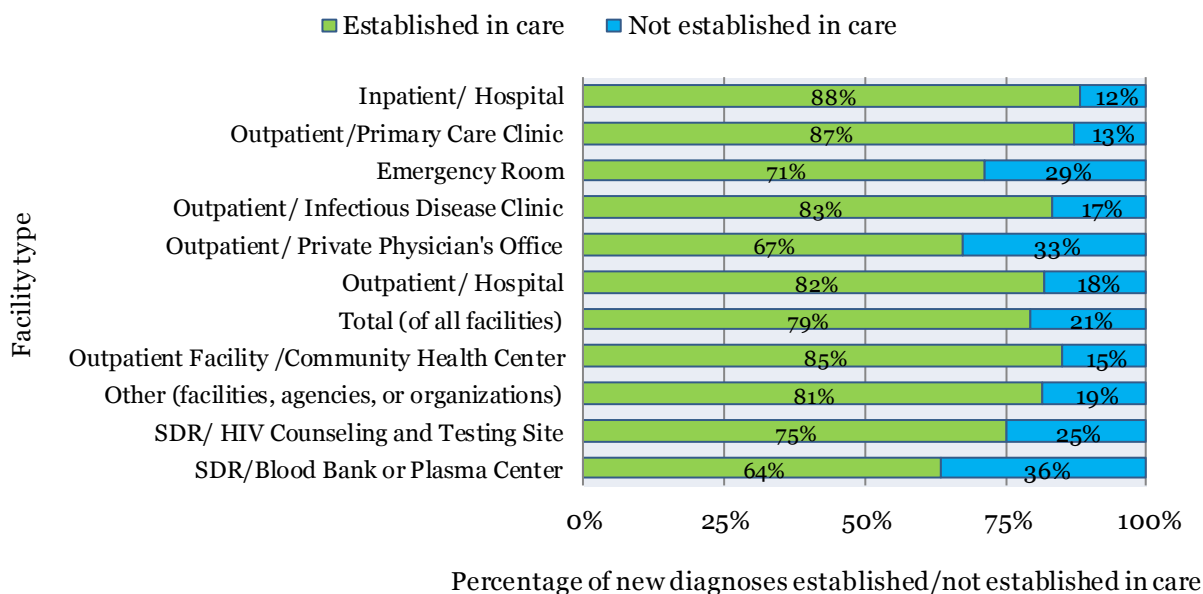


■ Linked to care ■ Not linked to care

The presence of two or more CD4 and/or VL lab tests within a year of diagnosis is a proxy for establishment in ongoing care. Any person without two tests, including persons linked and not linked to care, is considered to be not established in care (figure 73).

Health facilities where providers likely order a CD4 and/or VL lab test on the date of diagnosis report the most new diagnoses established in care. Not surprisingly, screening, diagnosis, and referral sites have the lowest percentage of diagnoses established in care. Primary care clinics and community health centers report a high percentage of establishment in care (over 80 percent), in contrast to private physician's offices and emergency rooms (approximately 70 percent).

Figure 73: Establishment in care of 2012 Michigan HIV diagnoses



2014 Profile of HIV in Michigan (Statewide)

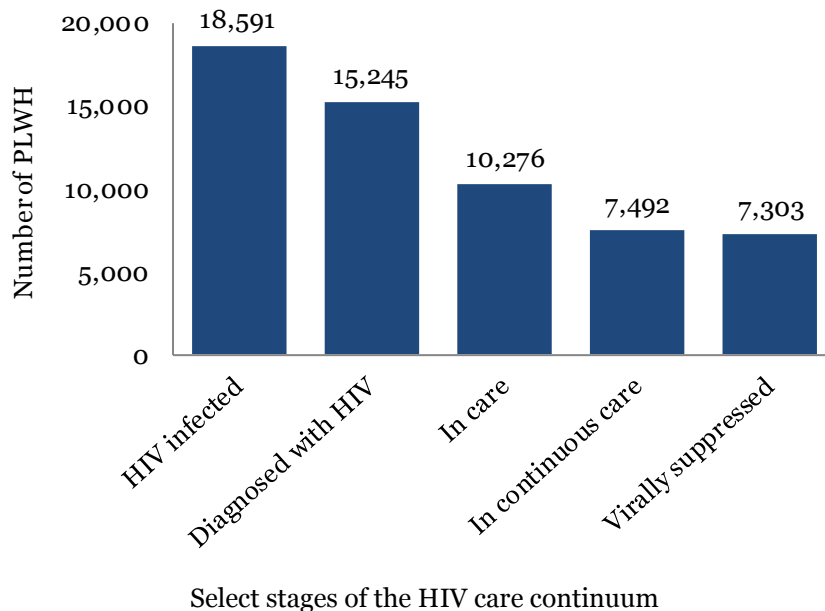
National HIV/AIDS Strategy (NHAS)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Michigan HIV Treatment Cascade:

The Treatment Cascade was developed by the CDC to assess gaps in care among persons living with HIV (PLWH) during the year 2012. It is presented here in order to provide context to many of the NHAS goals (figure 74).

Figure 74: Michigan HIV Treatment Cascade



HIV infected: Persons aware and unaware of their infection.

Diagnosed with HIV: Persons diagnosed with HIV. Unless otherwise noted, "PLWH" refers to diagnosed persons living with HIV.

In care: PLWH with at least one CD4 or viral load (VL) lab test.

In continuous care: PLWH who received at least two CD4 and/or viral load (VL) lab tests within one year at least three months apart.

Virally suppressed: PLWH with less than or equal to 200 copies of HIV virus per milliliter of blood (≤ 200 copies/mL).

Implementing the National HIV/AIDS Strategy in Michigan:

The NHAS Federal Implementation Plan lays out nine strategy objectives for 2015. The objectives are measurable indicators of the strategy's three main goals.

Goal 1: Reduce new HIV infections

Objective 1: By 2015, reduce the annual number of new HIV infections by 25 percent. To reach this goal, Michigan needs to reduce the annual number of new HIV infections from 815 (in 2006) to 611 (a reduction of approximately 23 new HIV diagnoses per year). Michigan did not meet the annual goal between 2009 and 2012. The growing prevalence rate (due to the decrease in HIV related deaths) may be a contributing factor. Statistically, the number and rate of new HIV diagnoses in Michigan remained unchanged between 2008 and 2012 (Trends).

Objective 2: By 2015, reduce the HIV Transmission Rate (HTR) by 30 percent. The HTR calculation is a measure of the annual new diagnoses in relation to the number of PLWH ($HTR \text{ of year } X = [\text{new diagnoses in year } X / \text{prevalence in year } X] * 100$).

It indicates the probability that a group of PLWH will transmit the virus to others. Because the HTR is a rate, progress in the reduction and prevention of HIV can be compared among dissimilar populations (geographic areas, demographic groups, etc.). To reach the NHAS goal, Michigan needs to reduce the annual HTR from 6.4 new diagnoses per 100 PLWH (in 2006) to 4.7 new diagnoses per 100 PLWH.

2014 Profile of HIV in Michigan (Statewide)

National HIV/AIDS Strategy (NHAS)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Michigan is on track to reach this goal by 2015 (figure 75). The number of new HIV diagnoses is decreasing in relation to HIV prevalence. As this objective accounts for prevalence (unlike objective 1) Michigan may meet objective 2 and not objective 1.

Objective 3: By 2015, increase the proportion of PLWH who know their HIV status to 90 percent. MDCH is currently developing a method to estimate the proportion of HIV-infected persons aware of their HIV status. Nationally, an estimated 82 percent of PLWH are aware of their status.

Goal 2: Increase access to care and improve health outcomes for people living with HIV

Objective 4: By 2015, increase the proportion of newly diagnosed persons linked to clinical care within 3 months to 85 percent. CD4 and/or viral load (vl) lab tests are proxies for clinical care visits. The first CD4 and/or VL lab test on or after the date of diagnosis is used to calculate the time between HIV diagnosis and linkage to care. With 84 percent of newly diagnosed persons linked to care within three months (figure 76), Michigan is on track to reach this goal.

Objective 5: By 2015, of PLWH in care, increase the proportion who are in continuous care to 80 percent. Persons who received at least two CD4 and/or viral load (VL) lab tests within one calendar year at least three months apart are in “continuous care” that year. The percent of persons in continuous care is a proportion of PLWH in care (not all PLWH). The slight decline in 2012 is due to the growth of PLWH in care (figure 77). However, the proportion of all PLWH in continuous care has remained at 49 percent since 2010. Engaging in care is an essential step to continuous care, therefore Michigan expects to meet this objective by 2015.

Figure 75: HIV transmission rate among PLWH ≥13 years of age and living in Michigan on January 1 of each given year

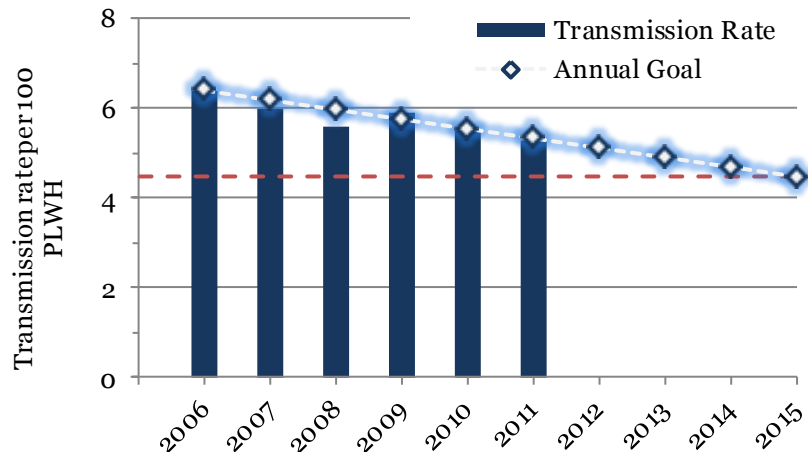
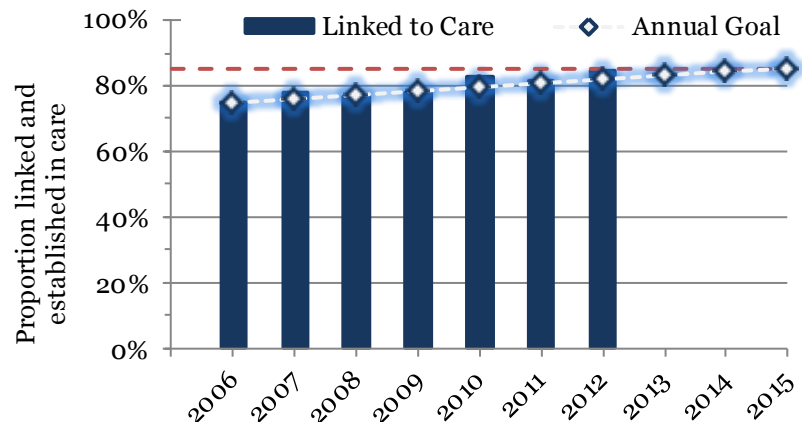


Figure 76: Proportion of new HIV diagnoses linked to clinical care within 3 months by year of diagnosis for persons ≥13 years of age and living in Michigan at diagnosis

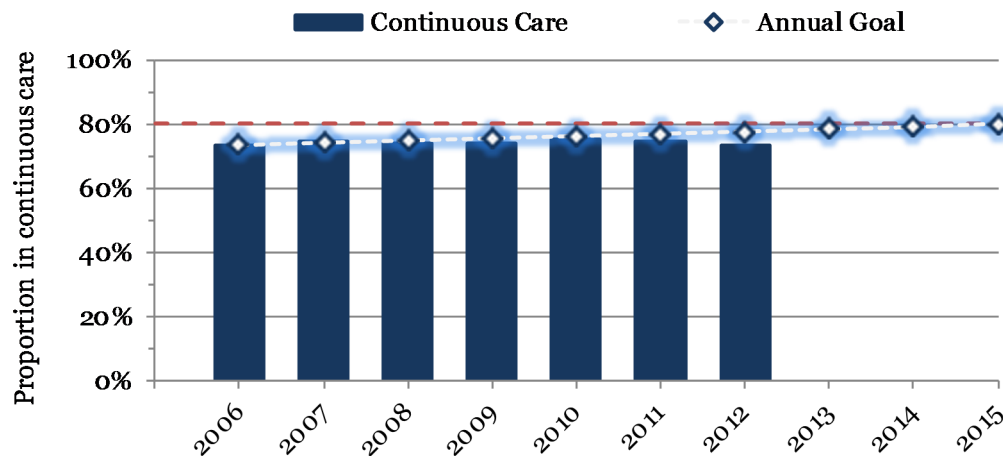


2014 Profile of HIV in Michigan (Statewide)

National HIV/AIDS Strategy (NHAS)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 77: Proportion of PLWH in continuous care of those in care, who were ≥13 years of age and living in Michigan on January 1 of each given year



Objective 6: By 2015, increase the proportion of PLWH with permanent housing to 86 percent. Changes in data reporting requirements for Housing Opportunities for Persons with AIDS (HOPWA) grantees which began June 2013 will allow MDCH to better estimate the proportion of PLWH in Michigan with permanent housing. Nationally, an estimated 82 percent of PLWH have permanent housing.

Goal 3: Reduce HIV-related health disparities

Objectives 7-9: By 2015, increase the proportion of virally suppressed black persons, Latino persons, and men who have sex with men (MSM) living with HIV by 20 percent. Virally suppressed PLWH are persons with less than or equal to 200 copies of HIV virus per milliliter of blood (≤ 200 copies/mL). Viral suppression in an individual is an indication of his/her access to care and adherence to treatment, and it results in reduced transmission risk.

The percent of virally suppressed PLWH in an HIV positive population is a proportion of the PLWH who received at least one viral load lab test in the given year (not all PLWH).

This NHAS goal specifically pertains to increasing viral suppression in populations disproportionately affected by HIV (HIV-diagnosed black persons, Latino persons, and MSM). To reach this goal, Michigan needs to increase the proportion of virally suppressed black persons from 49 percent to 61 percent, Latino persons from 57 percent to 71 percent, and MSM from 54 percent to 67 percent.

Michigan surpassed the NHAS 2015 goal to increase the proportion of virally suppressed Latino persons and MSM in 2009 and black persons in 2010. Michigan expects to continue increasing viral suppression in all PLWH. Meeting this goal early is a good indication that once persons are in care, the likelihood of viral suppression is high.

2014 Profile of HIV in Michigan (Statewide)

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

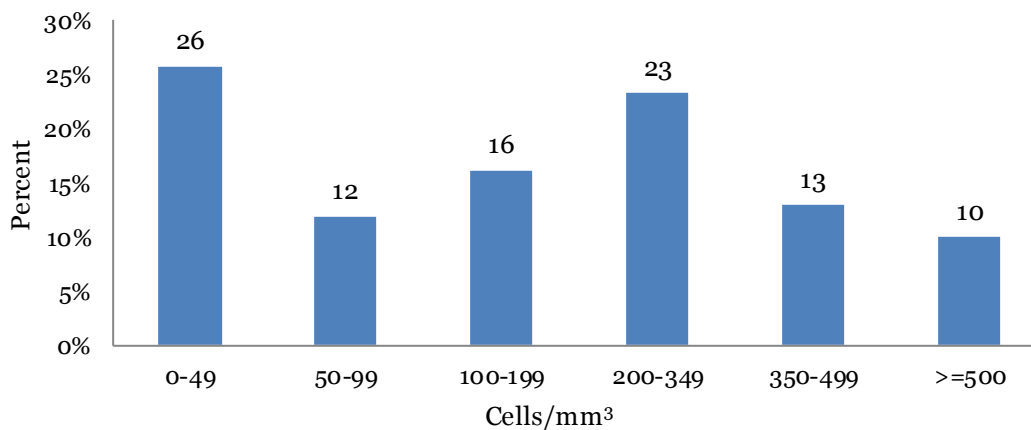
Entry into care:

Among HIV-positive persons in care and interviewed for the Medical Monitoring Project (MMP), five percent could not recall the year they received an HIV diagnosis. Seventy-four percent received an HIV diagnosis over five years prior to the interview date while 21 percent received their diagnosis within five years of the interview. Among persons who received their HIV diagnosis within five years of the interview, 82 percent entered HIV care within three months following diagnosis, nine percent entered HIV care between three and twelve months following diagnosis, and nine percent could not recall when they entered HIV care (data not shown in tables).

CD4 and viral load tests: The Department of Health and Human Services recommends that CD4 count and viral load tests for HIV-positive persons be conducted every 3-4 months. In the 12 months before the Medical Monitoring Project (MMP) interview, twelve percent of patients did not have a CD4 count test documented in their medical record and 24 percent did not have a documented viral load test.

Of the 210 persons who had a CD4 count test documented during the surveillance period, over half (54 percent) had values below 200 cells/mm³ (a criterion for stage 3 HIV infection (AIDS) diagnosis) (figure 78). Twenty-three percent of participants had CD4 counts in the range of 200-350. Only 10 percent had CD4 counts above 500, indicating little immunosuppression.

Figure 78: Lowest CD4 count documented in medical records of HIV-positive persons in care (MMP, 2010) (n=210)*



*Excludes patients with no documentation of a CD4 count value during the surveillance period (n=55); below 200 cells/mm³ is a criterion for an AIDS diagnosis

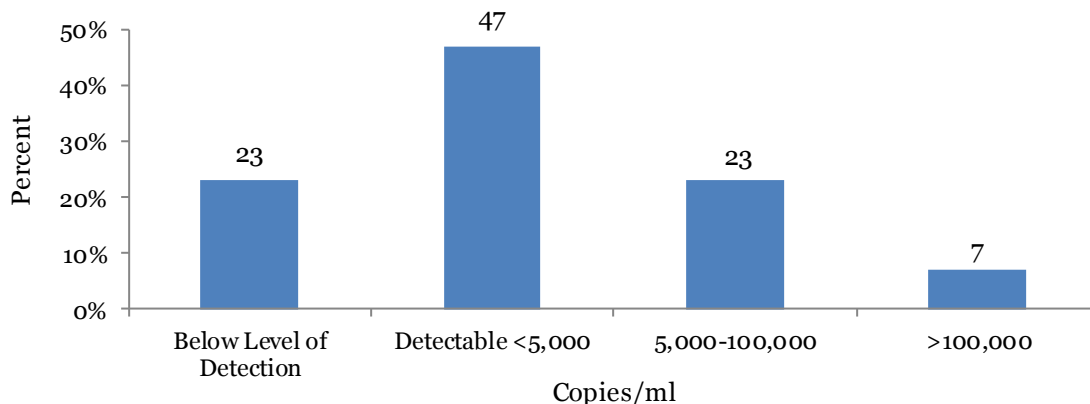
2014 Profile of HIV in Michigan (Statewide)

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Of the 162 persons with a viral load test result during the surveillance period, 23 percent had viral load results below the level of detection, indicating adequate HIV suppression (figure 79). The majority (47 percent) had values that were detectable but less than 5,000 copies/ml, and 30 percent had at least one viral load test value of $\geq 5,000$ copies/ml (indicating inadequately suppressed and rapidly progressing HIV infection).

Figure 79: Highest viral load value documented in medical records of HIV-positive persons in care (MMP, 2010) (n=162)*

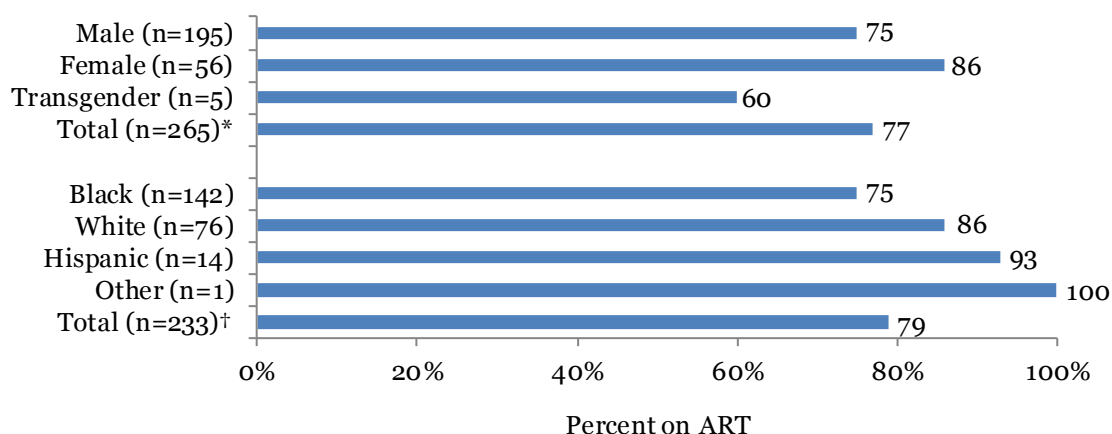


*Excludes persons with no documentation of a viral load test during the surveillance period (n=13); summarizes the highest viral load result for outpatient and inpatient visits during the surveillance period.

ART use:

About 77 percent of persons had documentation of a prescription for antiretroviral (ART) medication, while 23 percent had no documentation of a ART prescription. The main reason why persons were not currently on ART was that the doctor advised a delay or discontinuation of treatment.

Figure 80: Current ART use by gender and race/ethnicity among HIV-positive persons in care (MMP, 2010)



* Nine additional participants were missing gender data in Medical Record, but contained ART use data

† 32 participants refused to answer race in medical record and were excluded

2014 Profile of HIV in Michigan (Statewide)

Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Figure 80 shows ART use by demographic characteristics. A larger proportion of white persons reported current ART use during the interview than did black persons. Numbers for Hispanics and persons of other race are small and should therefore be interpreted with caution. A larger proportion of males reported current ART use than did females.

Among persons who were on ART, 76 percent achieved consistent viral suppression (viral load tests ≤ 200 copies/ml); 24 percent of persons had one or more viral loads of >200 copies/ml. One third of patients interviewed for MMP reported never skipping any ART medicine (31 percent); 29 percent reported skipping their ART medication within the past 3 months (figure 81).

Most patients (62 percent) interviewed for MMP reported never being troubled by the side effects of ART medication during the past 30 days (figure 82). Nineteen percent of those interviewed reported rarely being troubled by side effects, and only 4 percent said they were troubled by side effects of ART “most of the time.”

Figure 81: Last time missed any ART medication among HIV-positive persons in care (MMP, 2010) (n=124)

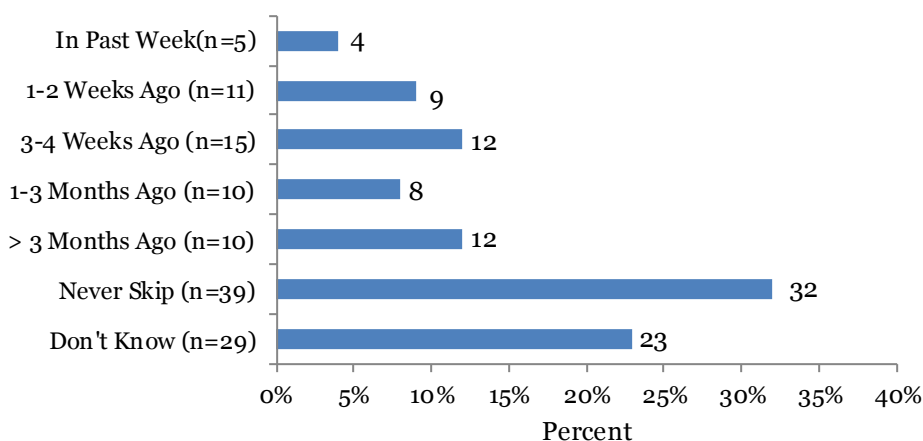
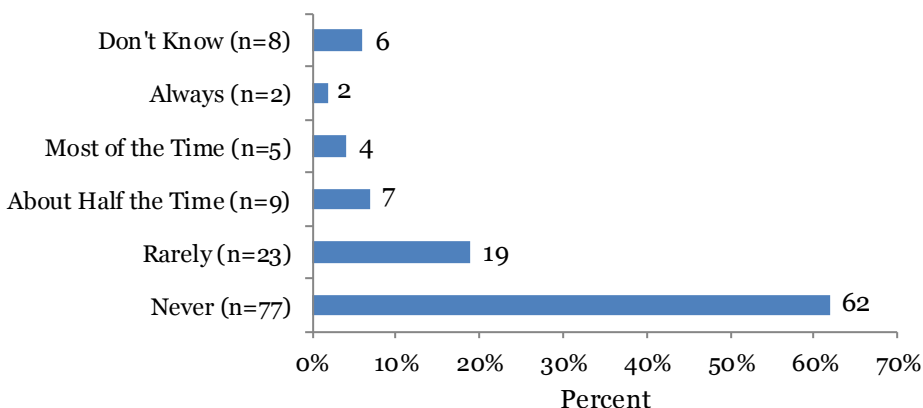


Figure 82: How frequently troubled by side effects of ART medications in the past 30 days among HIV-positive persons in care (MMP, 2010) (n=124)



2014 Profile of HIV in Michigan (Statewide)

Clinical Outcomes of Persons in Care

Data from enhanced HIV/AIDS Reporting System (eHARS)

Monitored viral load:

The National HIV/AIDS Strategy (NHAS) and the Centers for Disease Control and Prevention (CDC) have recently developed a “High Impact HIV Prevention” approach (<http://www.cdc.gov/hiv/topics/funding/PS12-1201/resources/factsheet/pdf/foa-partner.pdf>), which emphasizes the need to target resources to maximize the impact of HIV prevention activities. Measuring viral load has been highlighted as a useful tool in this effort. A viral load test is a measure of the amount of HIV in a person’s body, and it is a proxy measure for disease progression and infectiousness. Persons with lower viral loads are less likely to transmit HIV to uninfected partners.

Monitored viral load is the viral load of persons with HIV in care who have had viral load tests. It is impossible to know the viral load values of persons in care but without a viral load test (in-care viral load), persons diagnosed but not in care (community viral load), and undiagnosed persons (population viral load); therefore, monitored viral load is used to identify and target persons or groups with high viral loads. The following categorical measures are used to assess the quality of HIV care or the possible transmission potential for particular groups in care:

Suppressed: Viral load is ≤ 200 copies/mL (> 200 copies/mL is considered not suppressed);

Undetectable: Viral load is ≤ 50 copies/mL (> 50 copies/mL is considered detectable);

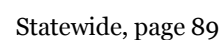
High VL: Viral load is $> 100,000$ copies/mL.

Table 16 on page 121 shows the proportion of persons living with HIV infection in Michigan as of December 31, 2012 with suppressed viral loads by select characteristics. Among those with at least one viral load test between January 1, 2012 and December 31, 2012 (roughly half of all persons living with HIV), 78 percent of males and 71 percent of females had at least one suppressed viral load value. When broken down by age, persons who were 13-24 years old on December 31, 2013 had the lowest proportion of suppressed viral loads (46 percent) (see page 61 for more information on viral suppression among youth). Viral load suppression increases with age, with 85 percent of persons 60 years and older having suppressed viral loads. This has implications for prevention, as the majority of new infections are among persons 20-24 years of age at diagnosis, and persons with unsuppressed viral loads are more infectious. There are also racial/ethnic disparities in viral load suppression. A smaller proportion of black persons who had a viral load test in 2012 had suppressed viral load values (69 percent) compared to 86 percent of white persons with at least one test. Eighty-three percent of HIV-positive Hispanics/Latinos had viral load suppression. The proportion of persons with suppressed viral loads is relatively constant across risk groups (62-69 percent), except that female injection drug users (IDU) have the lowest proportion of viral load suppression at 57 percent. Men who have sex with men (MSM), including MSM/IDU, have the highest proportion of viral load suppression at 69 percent.

Figure 83 on the following page shows the percent of PLWH that are virally suppressed based on local health department jurisdiction. Geographically, PLWH in the Upper Peninsula seem less likely to be virally suppressed than those in other parts of the state. The same goes for those in the southwest and eastern areas of the state, including the city of Detroit.

Clinical Outcomes of Persons in Care

Figure 83: Percent of PLWH that are virally suppressed by local health department jurisdiction



2014 Profile of HIV in Michigan (Statewide)

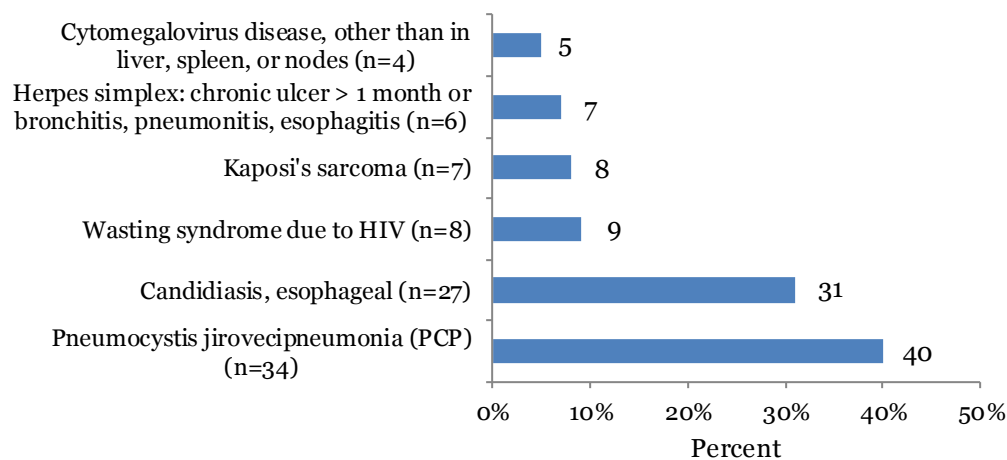
Clinical Outcomes of Persons in Care

Data from Medical Monitoring Project (MMP)

Opportunistic illnesses (OIs):

In order to be classified as stage 3 HIV infection (AIDS), persons must either meet immunologic criteria (determined by CD4 test values) or be diagnosed with one of the AIDS-defining opportunistic illnesses (OIs). About 28 percent (n=42) of persons whose medical records were reviewed for MMP had documentation of at least one OI, and 31 percent were diagnosed with two or more. Figure 84 shows the distribution of OIs for persons with at least one OI documented in their medical records. The most common OI was *Pneumocystis carinii* pneumonia, or PCP, at 48 percent, followed by esophageal candidiasis at 36 percent. Cytomegalovirus (CMV) disease, Herpes simplex, and Kaposi's sarcoma were the least commonly documented.

Figure 84: Opportunistic illnesses noted in medical records of HIV-positive persons in care (MMP, 2010) (n=66)*



*Includes all AIDS OI documented in four or more patients. Other AIDS OI diagnosed in fewer patients include Candidiasis (bronchi, trachea or lungs), extrapulmonary cryptococcosis, chronic (>1 month) intestinal cryptosporidiosis, cytomegalovirus retinitis (w/loss of vision), histoplasmosis, HIV encephalopathy, immunoblastic Lymphoma, pulmonary *M. tuberculosis*, *Mycobacterium avium* complex, recurrent pneumonia, and toxoplasmosis of brain

Psychiatric illnesses:

About 33 percent of persons whose medical records were reviewed for MMP had a documented diagnosis of at least one of four psychiatric disorders abstracted from medical records (anxiety disorder, bipolar disorder, depression, and psychosis) (figure 85, page 91). Twenty-eight percent of persons (n=75) had documentation of a diagnosis of depression (major depression, depressive disorder); this is compared with a 16.5 percent lifetime prevalence of major depression in the U.S. adult general population (Kessler et al. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). Archives of General Psychiatry 62(6):593-602.).

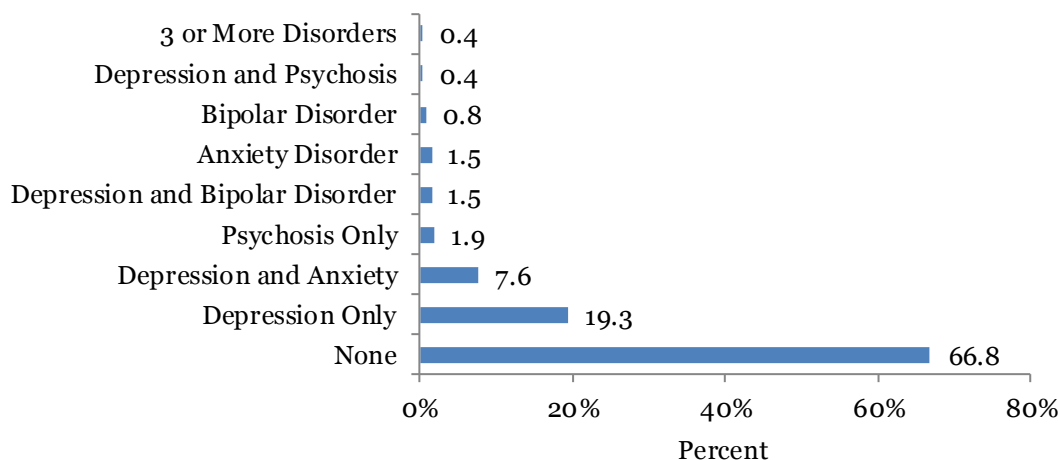
Recommendations for screening for other infectious diseases among HIV-positive persons vary based on patient characteristics. Test results presented here are broadly defined as having at least one laboratory test performed for the particular infectious disease.

2014 Profile of HIV in Michigan (Statewide)

HIV and Other Infectious Diseases

Data from Medical Monitoring Project (MMP)

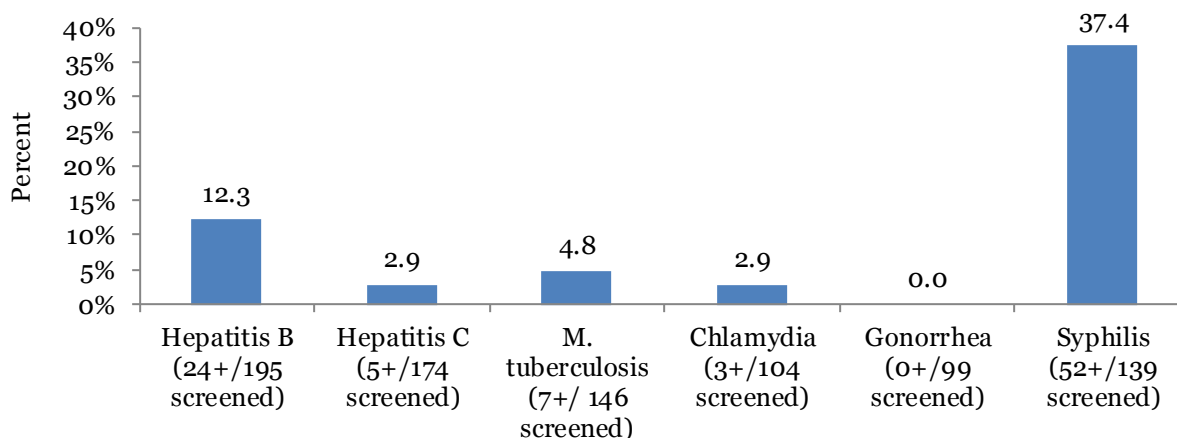
Figure 85: Psychiatric disorders* noted in medical records of HIV-positive persons in care (MMP, 2010) (n=265)



*Any documentation of physician-diagnosed anxiety disorder, depression, bipolar disorder, or psychosis (including schizophrenia) during the medical history period and/or the surveillance period that required treatment (e.g. counseling, medications, hospitalization).

Figure 86 shows other infectious diseases MMP participants were screened for and the proportion who tested positive. The most common co-infection was Hepatitis B at 12 percent of those screened (24 positive tests of 195 screened). The next most common co-infection was mycobacterium tuberculosis (five percent of those screened).

Figure 86: Diagnoses of other infectious diseases among HIV-positive persons in care with documentation of screening in medical record (MMP, 2010)*



*Screening was defined as having documentation of at least one type of laboratory test for the specified infection. Hepatitis B infection was defined as positive for HBsAg and/or positive for anti-HBc IgM, and/or a positive HBV DNA result (n=24); hepatitis C infection was defined as having a positive HCV RNA quantitative (PCR) and/or a positive HCV RNA qualitative (n=5); + = positive

2014 Profile of HIV in Michigan (Statewide)

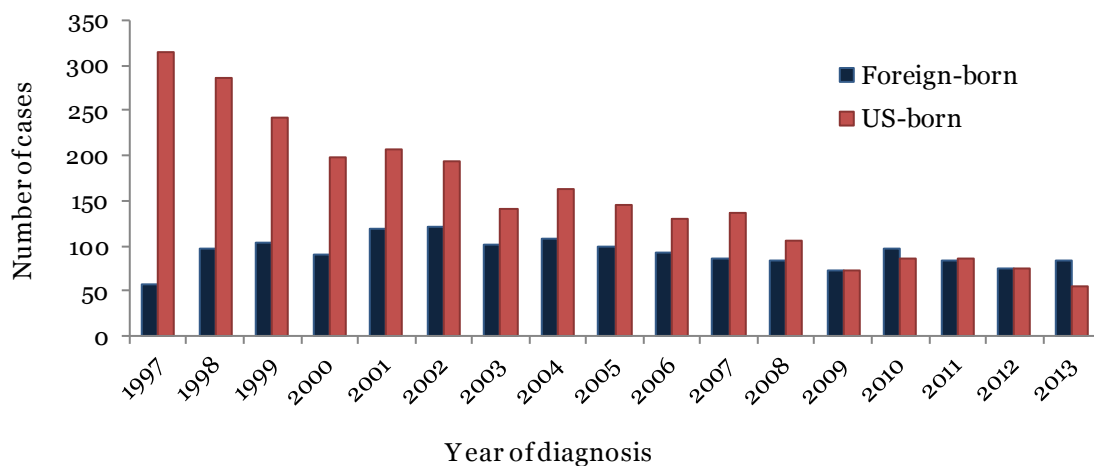
Tuberculosis

Data from Michigan Disease Surveillance System (MDSS)

Overview:

The incidence rate for tuberculosis (TB) in 2013 was 1.4 cases per 100,000. While Michigan is considered to have a low incidence of TB, the demographic distribution of TB cases warrants some attention. Seventy-five percent of the 141 reported TB cases reside in the Detroit Metro Area (DMA). Of these, thirty percent (40 cases) are residents of the City of Detroit. The remaining cases in the DMA are residents of the following counties: Wayne County (excluding Detroit) (27 percent, 29 cases), Macomb County (10 percent, 11 cases), and Oakland County (25 percent, 26 cases).

Figure 87: Number of TB cases in US-born vs. foreign-born persons in Michigan, 1997–2013

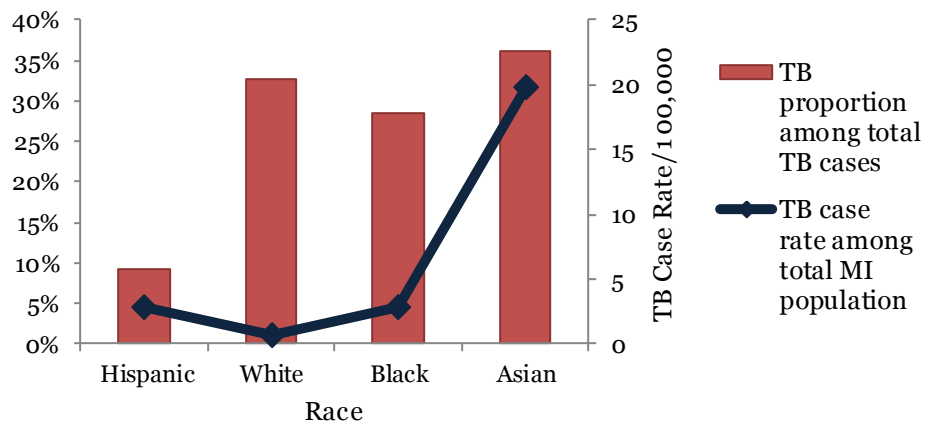


In 2013, 39 percent of Michigan cases were born in the US and 59 percent were foreign-born (figure 87). It is expected that the number of foreign-born cases will increase.

Racial disparities:

TB disease in Michigan currently faces the challenge of racial and ethnic disparities. Figure 88 illustrates the racial/ethnic disparities of TB patients in Michigan. The rate of TB disease among the white population is quite low (0.6 per 100,000). The rate among black persons is higher (3.4 per 100,000), however the highest rate is

Figure 88: TB case rates among Michigan's population vs. TB proportions among total cases by race, 2013



2014 Profile of HIV in Michigan (Statewide)

TB/HIV Co-infection

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

among Asians/Native Hawaiians or Other Pacific Islanders (19.4 per 100,000). This group comprises 30 percent of TB cases but only two percent of the general population. While black persons make up only 14 percent of the general population, they represent 28 percent of the TB population. These data demonstrate a need for targeted intervention and education among disproportionately affected groups. Data on other racial/ethnic minorities is not shown due to small numbers.

Overview:

As the HIV epidemic continues to grow, there are indications of a correlation between those infected with HIV and TB, although the number of TB cases have been declining in Michigan since the early 1990s. As of January 2014, there were 162 persons known to be living in Michigan with HIV who had ever been diagnosed with TB (data for this section not shown in tables).

Race/ethnicity and sex:

Seventy-six percent of co-infected cases are male and 24 percent are female. The majority are black (67 percent), 12 percent are white, 12 percent are Hispanic, four percent are Asian/Native Hawaiian or Other Pacific Islander, and the remaining four percent are persons of other or unknown race.

Age at HIV diagnosis:

The largest proportion of co-infected cases were in their thirties at HIV diagnosis (40 percent), followed by those in their forties and those in their late twenties (25-29 years at HIV diagnosis) (17 percent). Teens (13-19 years at HIV diagnosis) make up three percent and young adults (20-24 years at HIV diagnosis) make up eight percent of co-infected cases.

Birth country:

Twenty-eight percent of co-infected persons were born outside of the United States. Country of birth is missing or unknown for 18 percent of cases, and the remaining 54 percent were born in the US.

Other information:

Of the 162 HIV cases currently living in Michigan who were co-infected with TB, 123 (76 percent) had pulmonary tuberculosis and 39 (24 percent) had extra-pulmonary tuberculosis (outside of the lung).

As of January 2014, a total of 674 co-infected cases have been definitively diagnosed with HIV and TB, of whom 512 (76 percent) have died. Tuberculosis is one of the opportunistic illnesses (OIs) that defines a person as stage 3 HIV infection, so all persons with a TB diagnosis are stage 3 cases.

Conclusions:

Data on HIV/TB co-infection are gleaned by matching the HIV surveillance data to the TB surveillance data, but these data could still be underreported. The HIV status of 15 percent of active Michigan TB cases tested in 2013 is unknown. Of these, 19 percent refused an HIV test, 57 percent were never offered the test, and 23 percent were reported with an unknown HIV status. This demonstrates a need for education, not only for patients regarding their risk for HIV infection but also for health care practitioners on the need to test for HIV in this population.

2014 Profile of HIV in Michigan (Statewide)

Sexually Transmitted Diseases

Data from Michigan Disease Surveillance System (MDSS)

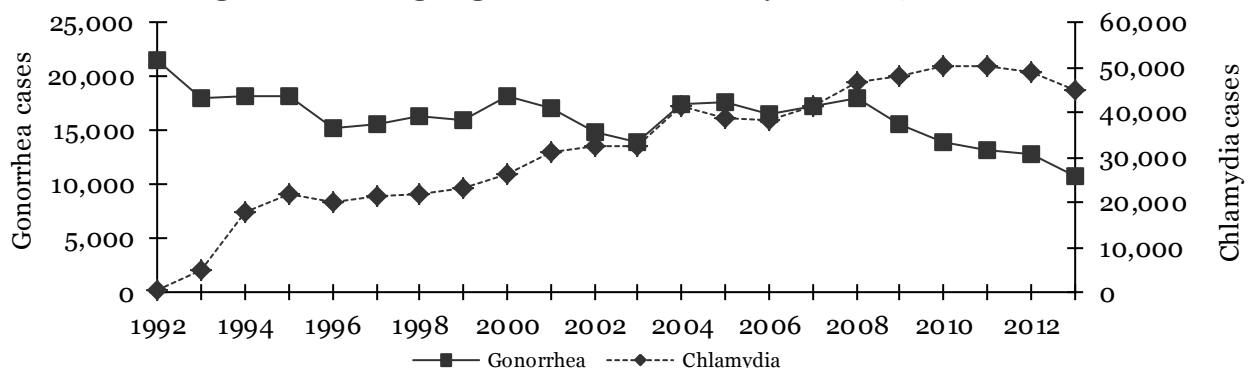
Overview:

Several sexually transmitted diseases (STDs) are more common than HIV infection, have a short incubation period, and are curable. Reviewing their patterns of transmission can provide additional information regarding recent sexual behavior and potential risk not available from HIV data. Studies have shown that the risk of both acquiring and spreading HIV is two to five times greater in people with STDs. Aggressive STD treatment in a community may help to reduce the rate of new HIV infections.

Gonorrhea and chlamydia:

During 2013, there were over 45,000 cases of chlamydia and over 10,000 cases of gonorrhea reported in Michigan (figure 89) (table 17, page 122). For both diseases, the highest rates of infection were among persons age 20-24. This age group comprises seven percent of the Michigan population but accounted for 37 percent of gonorrhea and 41 percent of chlamydia cases. The rates of chlamydia and gonorrhea among blacks were much higher than among whites. Even though 28 percent of gonorrhea cases and 32 percent of chlamydia cases were missing race information, the rate (number of cases per population) among blacks is at least seven times higher than among whites (assuming all unknown cases were among whites). Forty-four percent of gonorrhea cases were male, however 72 percent of chlamydia cases were female. This is partly because chlamydia screening targets females specifically.

Figure 89: Michigan gonorrhea and chlamydia cases, 1992-2013



Syphilis:

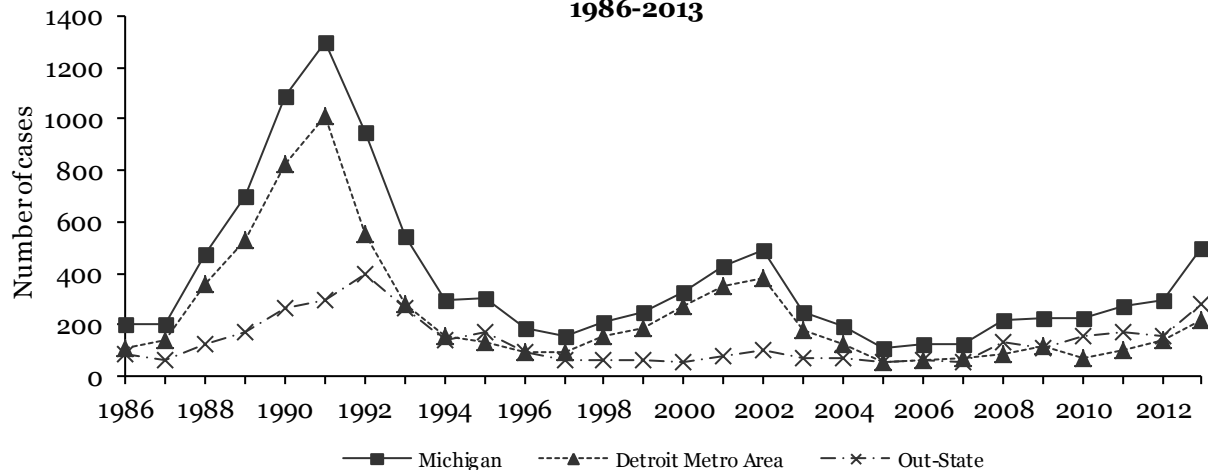
Figure 90 shows that primary and secondary (P&S) syphilis was diagnosed much less frequently than gonorrhea and chlamydia (498 P&S syphilis cases) in 2013 (See Appendix A, page 233 for a definition of P&S syphilis). Syphilis in Michigan and nationally has followed a cyclical trend, increasing approximately every ten years. Major outbreaks peaked in 1991 (1303 cases) 2002 (486 cases), and probably 2013 (498 cases; early 2014 data suggests the number may now be declining). Case totals were relatively low (105 – 250) from 2003 through 2010. In 2013, 39 percent of cases were among those younger than 25 years, reflecting a trend towards younger syphilis cases. In contrast, only 18 percent of cases were over age of 40. During 2010-11, 35 percent of cases were age 20-29, but this grew to 52 percent in 2013. The distribution of STD cases by age is now similar between chlamydia, gonorrhea, and syphilis (table 17, page 122). Syphilis cases reported in 2013 were 68 percent black and 94 percent male.

2014 Profile of HIV in Michigan (Statewide)

Sexually Transmitted Diseases

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

Figure 90: Michigan primary and secondary syphilis cases by region, 1986-2013



Sexual orientation:

There has been a national increase of STD diagnoses among self-identified men who have sex with men. Michigan does not collect data on sexual orientation for all gonorrhea or chlamydia cases, but does for syphilis cases. Of P&S cases in 2013, 73 percent of cases in Detroit and 72 percent of cases in the rest of the state are men who have sex with men. Of these MSM, 70 percent of Detroit and 62 percent of non-Detroit cases are HIV infected. These data reflect a shift from earlier years. In 2008, 25 percent of Michigan P&S syphilis cases were among MSM, which increased steadily to 66 percent in 2010 and 72 percent in 2013. This trend is mirrored nationally and is the focus of prevention efforts around the country.

Geographic distribution:

Several areas in Michigan consistently report high rates of STDs. The five areas with the highest chlamydia rates per 100,000 persons are the City of Detroit (1,540), Kalamazoo County (735), Muskegon County (702), Ingham County (653), and Kent County (613). Gonorrhea rates are highest in the City of Detroit (535), Genesee County (217), Calhoun County (167), Ingham County (154), and Saginaw County (135). The health departments reporting the highest rates of syphilis per 100,000 are all in southeast Michigan, including the City of Detroit (27), Wayne County (9), Washtenaw County (6), Oakland County (6), and Macomb County (4) (table 18, page 123).

HIV/gonorrhea:

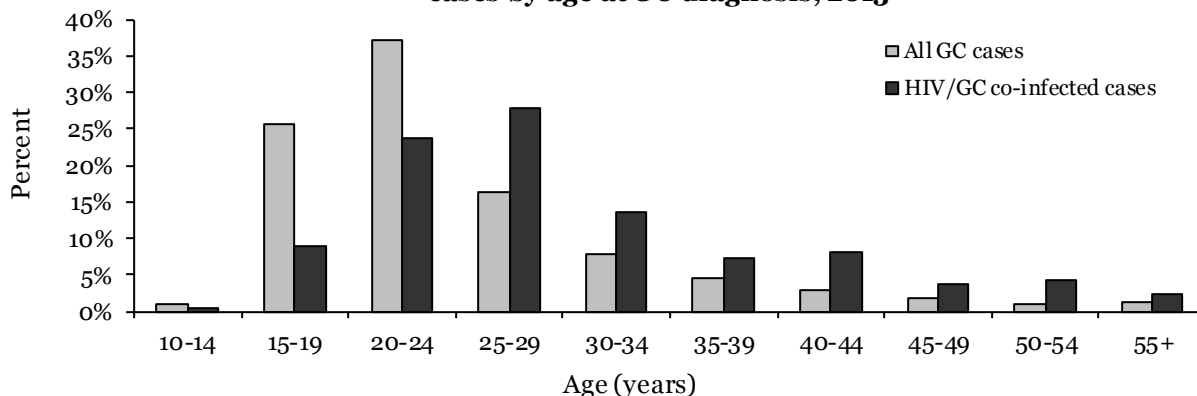
In 2013, 288 of the 9,385 unique people with gonorrhea were also HIV infected (3 percent). Half of these cases resided in the City of Detroit (49 percent). The majority of co-infected cases were male (91 percent), black (72 percent) and age 15-29 (61 percent). Seventy-eight percent were men who have sex with men. The majority were diagnosed with HIV prior to 2013 (78 percent), while 22 percent were diagnosed with both gonorrhea infection and HIV infection in 2013. Half of cases diagnosed with both in 2013 resided in Detroit City (50 percent), and 13 percent resided in Oakland County. The age distribution of all gonorrhea cases compared to co-infected cases is shown in figure 91 on the following page (data on co-infections not shown in tables).

2014 Profile of HIV in Michigan (Statewide)

STD/HIV Co-infection

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

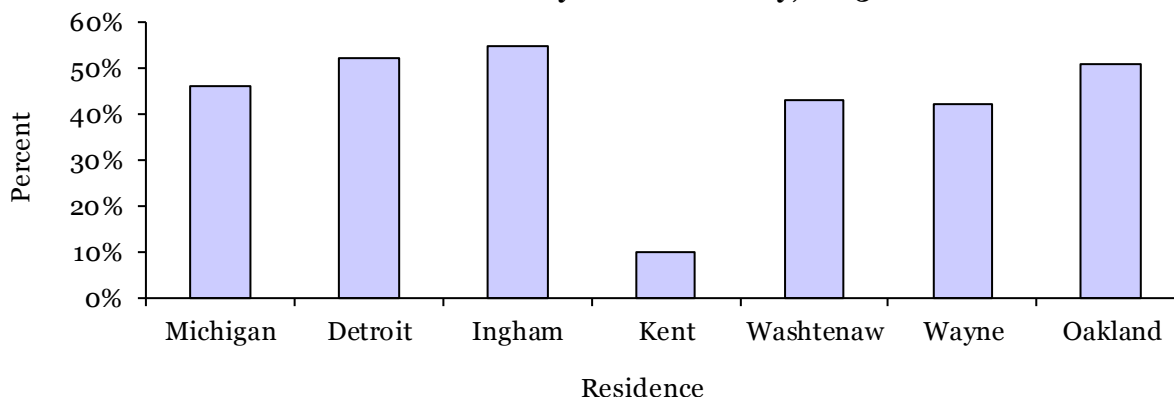
Figure 91: Proportion of gonorrhea (GC) cases and HIV/GC co-infected cases by age at GC diagnosis, 2013



HIV/syphilis:

In 2013, 445 of 1078 unique people with syphilis were HIV co-infected (41 percent), compared with 38 percent in 2011 and 30 percent in 2009. Forty-seven percent of the co-infected cases were P&S syphilis. Among the P&S syphilis cases with HIV, 83 percent were residents of the DMA, 77 percent were black, 20 percent were white and two percent were Hispanic. Fifty-four percent were between 20-29 years old. The distribution of co-infected cases by selected county is shown in Figure 92. Syphilis infections increase the likelihood of acquiring and spreading HIV infection two- to five-fold. Increases among syphilis in HIV+ MSM may be attributed to prevention fatigue, serosorting, the high rate of anonymous partners met on the Internet, and prevention messages not reaching marginalized populations.

Figure 92: Percent of P&S syphilis cases co-infected with HIV statewide and by selected county, 2013



2014 Profile of HIV in Michigan (Statewide)

Hepatitis C

Data from Michigan Disease Surveillance System (MDSS)

Overview:

Hepatitis C is a disease of the liver caused by infection with the hepatitis C virus (HCV), in which the acute (or newly acquired) infection can progress to a chronic, long-term infection. Hepatitis C is the most common bloodborne infection in the United States and is the leading indicator for liver transplantation.

Fifteen to 25 percent of those acutely infected will resolve the infection on their own. However, the majority of infected people (75 to 85 percent) will develop chronic infection. Disease progression in those chronically infected is variable but can advance from fibrosis to cirrhosis to end-stage liver disease and death. Ten to 20 percent of those chronically infected will develop cirrhosis within 20 to 30 years after infection. An estimated 60 to 70 percent of hepatitis C-infected individuals are unaware of their infection (citation).

Since 1992, the primary mode of transmission for the hepatitis C virus is through the sharing of needles, syringes, and other drug paraphernalia. An estimated 60 to 90 percent of injection drugs users are infected with the virus. Other routes of hepatitis C transmission include sexual contact, from mother to child during the birth process, and via occupational exposure to blood. In addition, the virus was transmitted through blood transfusions prior to 1992 and during receipt of blood products developed before 1987. No vaccine against hepatitis C infection exists, but major advancements have recently been made in the treatment of HCV, leading to a nationwide push to increase HCV testing in those individuals born between 1945 and 1965 and others at risk for infection.

Acute hepatitis C:

In 2013, 74 cases of acute hepatitis C were reported statewide in Michigan (table 19, page 124). Fifty-four percent of acute cases were among females, while 46 percent were among males. Ethnicity is not consistently collected for hepatitis C cases, therefore we cannot provide a measure of infection among Hispanic or non-Hispanic persons. Seventy-eight percent of reported cases were among white persons and 7 percent were among black persons. The race/ethnicity of the client was unknown in 11 percent of reported acute cases. Due to small numbers, rates are unavailable for cases of acute hepatitis C in 2013.

Chronic hepatitis C:

In 2013, 6,719 cases of chronic hepatitis C were reported statewide in Michigan (table 19), a rate of 68 cases of chronic hepatitis C per 100,000 Michigan residents. Sixty-four percent of chronic cases were among males while 36 percent were among females. The rate of chronic hepatitis C in Michigan was the highest among American Indian/Alaska Natives (121 per 100,000), and second highest among black persons (94 per 100,000), compared to 42 per 100,000 in white persons (figure 93, page 98). However, these rates must be viewed with caution as the race/ethnicity of the client was unknown in 36 percent of reported chronic cases. The highest rate of chronic hepatitis C was found in the 55-64 year age group (figure 94, page 98).

Please note that chronic hepatitis C data must be interpreted with caution. Chronic hepatitis C data do not represent the incidence or prevalence of chronic hepatitis C in Michigan; rather the data represent an aggregate of newly diagnosed cases reported to local health departments by laboratories and healthcare providers. Although these cases were newly diagnosed in 2013, the patient may have been chronically infected with hepatitis C for years but remained undiagnosed until 2013.

2014 Profile of HIV in Michigan (Statewide)

Hepatitis C

Data from Michigan Disease Surveillance System (MDSS)

Figure 93: Rate of chronic hepatitis C among Michigan residents by race, 2013

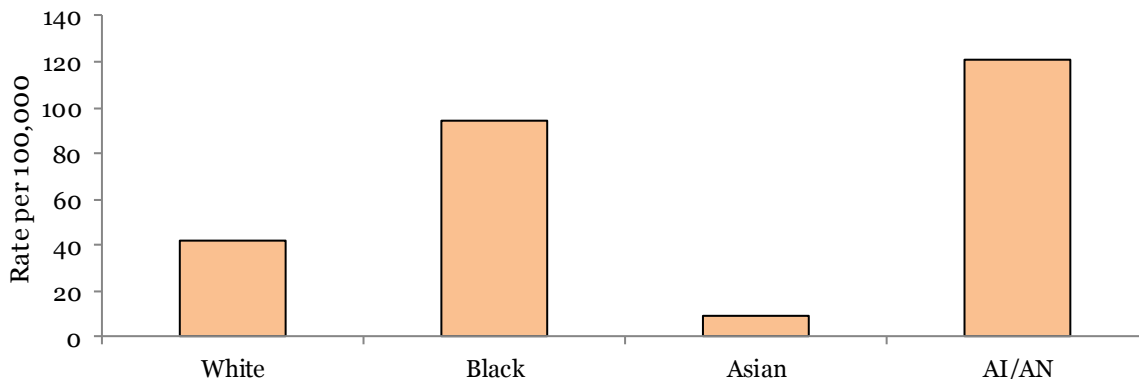
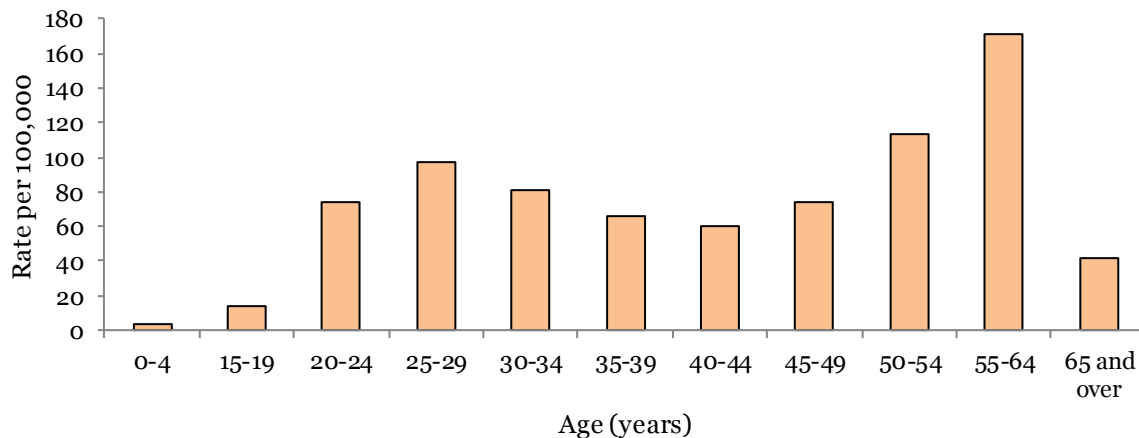


Figure 94: Rate of chronic hepatitis C among Michigan residents by age, 2013*



*Rates were not calculated for persons 5-9 and 10-14 years of age because they had <10 cases

Limitations of the data:

Since acute and chronic hepatitis C infections are often asymptomatic and can remain undetected and unreported for years, the official number of reported cases is much lower than the actual number of cases. An estimated 3.2 million persons in the United States have chronic hepatitis C virus infection. Most people do not know they are infected because they don't look or feel sick.

2014 Profile of HIV in Michigan (Statewide)

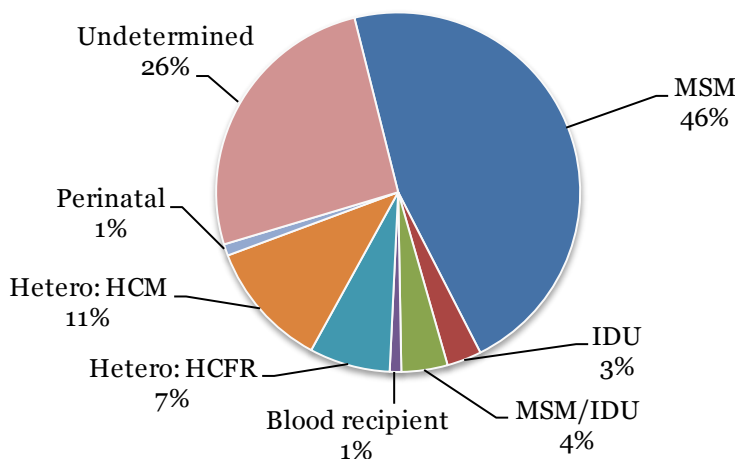
Special Populations: Arab Americans

Data from enhanced HIV/AIDS Reporting System (eHARS)

Arab is considered an ethnicity and not a racial category and has not been routinely collected by the HIV surveillance system. Consequently, the numbers presented here are an underestimate. Beginning in the year 2001 and at the request of an Arab community-based organization, a question was added about Arab ethnicity on the HIV/AIDS Adult case report form. For additional data on Arab Americans living with HIV in Michigan, please see tables 23 and 24, pages 128-129.

In Michigan, the largest concentration of Arab Americans is in the Detroit Metro Area (DMA). This is also where most of the HIV infections among Arab persons were diagnosed. A total of 137 persons of Arab descent have ever been diagnosed with HIV and confidentially reported to MDCH. Of these, 97 persons are living; 56 percent have progressed to stage 3 infection. Of those currently living, counties of residence of HIV diagnosis include Wayne (43 percent), Oakland (26 percent), and Macomb (16 percent) counties. The remaining 15 percent were diagnosed in other counties or were diagnosed out of state or have an unknown residence at diagnosis (data not shown in tables).

Figure 95: Arab persons living with HIV infection in Michigan by risk transmission category, January 2014 (n = 97)



Eighty-four percent of HIV infection cases of Arab descent are among males and 16 percent are among females. Forty-one percent of cases reported male-male sex (including MSM/IDU). Nineteen percent of cases had a risk of heterosexual contact (HC), of whom sixty-one percent are females. Twenty-six percent have undetermined risk (figure 95).

The age at HIV diagnosis is similar to the age distribution for all cases in Michigan, with five percent ages 0-19, eleven percent 20-24, 25 percent 25-29, 31 percent 30-39, 20 percent 40-49, five percent 50-59, and two percent ages 60 and older.

2014 Profile of HIV in Michigan (Statewide)

Special Populations: Arab Americans

Data from US Census Bureau &
ACCESS, Community Health & Research Center

Within the U.S., the largest concentration of Arab Americans lives in the DMA. This ethnic group constitutes less than two percent of the Michigan population but 42 percent of the population in Dearborn. Studies show that being foreign-born makes someone more likely to face barriers to access to health care services, particularly HIV care (<http://hab.hrsa.gov/newspublications/careactionnewsletter/may2010.pdf>). Since approximately 75 percent of Arab Americans living in Dearborn were born outside of the U.S., it is important to focus HIV prevention and care efforts among this group.

From October 2003 through July 2005, the Arab Community Center for Economic and Social Services (ACCESS) conducted 15 rounds of focus group discussions with men in the Arab American community identifying as gay or bisexual. Approximately 95 percent of attendees were Arab or Chaldean and were residents of Detroit, Dearborn, and other areas of Metro Detroit. The age of the attendees ranged from 13 to 58. From October 2002 through September 2004, the majority of attendees were older than 25; however, from October 2004 through July 2005 the majority were men under 25 years of age.

These focus groups allowed participants to freely discuss concerns surrounding being a gay or bisexual male in the Arab community. About 80 percent of attendees rarely negotiated safer sex practices with their partners, stating that barriers were a lack of negotiating skills and exchanging sex for money, drugs, or gifts. The attendees were also afraid of getting tested for HIV for fear of the results and backlash from family and community. This discussion also uncovered a belief that if men only have sex with other Arabic or Chaldean men, they have no risk for contracting HIV.

Additionally, these participants discussed their desire for more social networks among gay Arab males, which they felt would allow for more opportunities to deliver prevention, education, and counseling on risk behaviors.

2014 Profile of HIV in Michigan (Statewide)

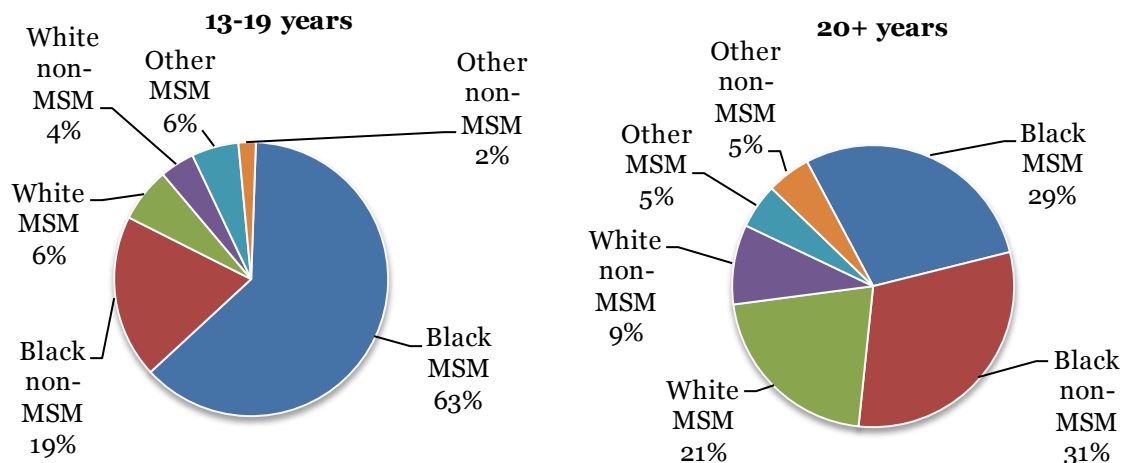
Special Populations: Young Black MSM

Data from enhanced HIV/AIDS Reporting System (eHARS) &
National HIV Behavioral Surveillance (NHBS)

Race/ethnicity and age:

Nationally and in Michigan, the fastest growing population of HIV-positive persons are young black males who have sex with males (MSM) (ages 13-24). Surveillance data from the 40 states with confidential HIV reporting since 2006 show that in 2010, the greatest number of new HIV infections among MSM occurred in young black MSM, aged 13-24 (Centers for Disease Control and Prevention, <http://www.cdc.gov/hiv/statistics/basics/ata glance.html>). In Michigan, MSM (regardless of age) were 55 percent of all new HIV diagnoses between 2008 and 2012 (Trends). Of these newly diagnosed MSM, 57 percent were black. Of all teens diagnosed in the last five years, 82 percent are black compared to 60 percent of persons diagnosed at older ages (figure 96). Furthermore, teens are significantly more likely to be black MSM compared to adults 20 years and older (63 percent vs. 29 percent). These data underscore a need for prevention campaigns tailored to young black MSM, as the shift in new diagnoses to this young group will likely widen the already large racial gap among persons living with HIV.

Figure 96: 13-19 year olds vs. persons 20 and older at HIV diagnosis by race and risk, 2008-2012



MSM behavior:

The 2011 MSM cycle of the National HIV Behavioral Surveillance (see page 38) surveyed 462 men who had sex with a man in the preceding 12 months. Participants were at least 18 years old, and surveyed at venues such as bars and clubs in Wayne County, MI. Of these 462 MSM, 260 were black and 171 were young black MSM between 18 and 24 years old. Participants were interviewed about their most recent sexual encounter (anal or oral). Younger individuals were more likely to engage in receptive anal sex compared to their older peers (figure 91). There was no correlation between age and condom use, however young black MSM were more likely to use condoms during their entire previous sexual experience compared to youth of other races (63 percent vs 47 percent). Condom use was not influenced by the type of sex or the relative age of the youths' sexual partners.

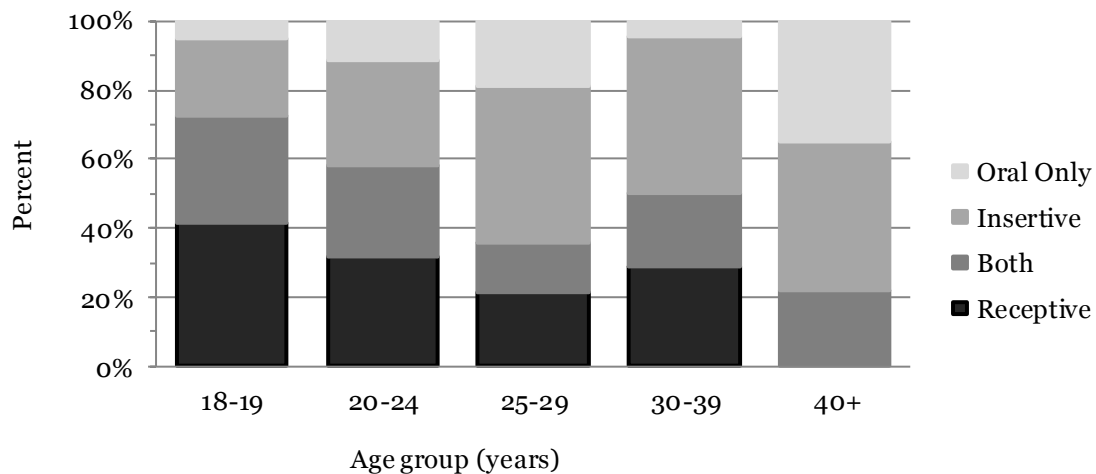
Despite the fact that 37 percent of young black MSM did not use a condom during their previous sexual encounter, less self-reported HIV negative young black MSM reported a willingness to take anti-HIV medications daily, such as PrEP, compared to older, self-reported HIV negative black MSM.

2014 Profile of HIV in Michigan (Statewide)

Special Populations: Young Black MSM

Data from enhanced HIV/AIDS Reporting System (eHARS)

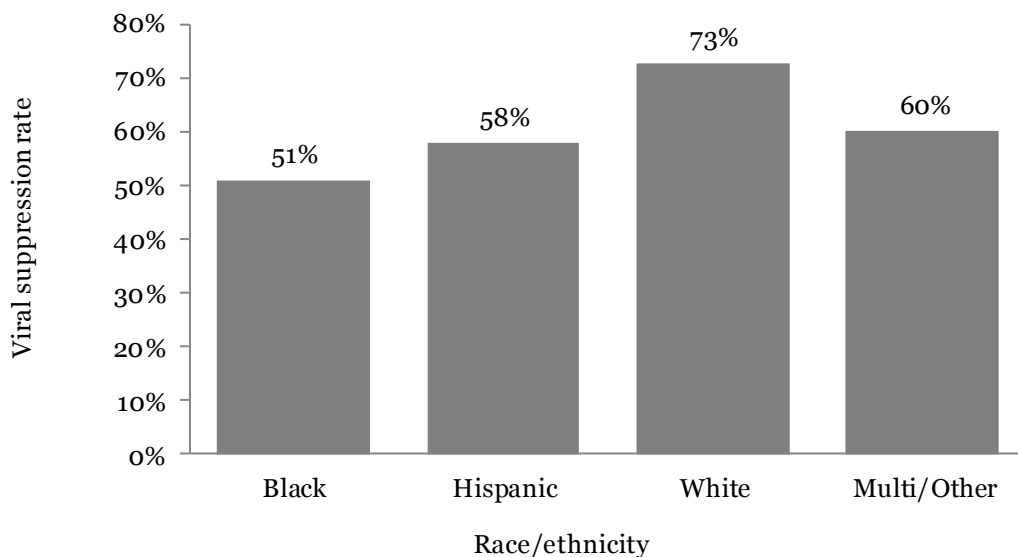
Figure 97: Age group and sexual encounter type among black NHBS MSM 2011 participants (n=260)



Viral suppression:

Taking a closer look at viral suppression rates among young Michiganders living with HIV, it is apparent that young black MSM are less likely to achieve viral suppression compared to young MSM of other races (figure 98).

Figure 98: Viral suppression rates among YMSM (13-24 year olds) living in Michigan in 2012, by race/ethnicity (n=428)



2014 Profile of HIV in Michigan (Statewide)

Special Populations: Young Black MSM

Data from enhanced HIV/AIDS Reporting System (eHARS) &
Michigan Disease Surveillance System (MDSS)

STDs:

In 2013, 1,539 chlamydia cases were reported among black males age 13 to 19. The rate of infection in this population is 1,700 per 100,000, or nearly four times the rate of infection among all persons in Michigan. Four hundred eighty-two gonorrhea cases were reported in this demographic in 2013, with a rate of 532 per 100,000, or five times that of the general population. In 2013, 427 cases of chlamydia and 84 cases of gonorrhea were reported among white males in this same age group. Gonorrhea rates among young black males in cities such as Detroit, Flint, Kalamazoo, and Ypsilanti have rates showing even higher levels of disproportional impact.

In 2013, there were 27 cases of P&S syphilis among black males between the ages of 13 and 19, compared with 9-19 cases each year 2008-2011. The 27 cases represent six percent of all male cases, while black males age 13-19 are 17 percent of the male population. Eighty-nine percent were MSM and 37 percent were HIV co-infected.

2014 Profile of HIV in Michigan (Statewide)

Special Populations: Young Black MSM

Data from Outreach and Prevention Services for MSM

Gay/MSM initiative:

MSM are the single largest behavioral group affected by the HIV epidemic and account for over half (52 percent) of all reported HIV-positive persons in the State of Michigan. In response, the Michigan Department of Community Health (MDCH) launched the initiative, a statewide strategic planning process to enhance HIV/STD prevention services for Gay/MSM.

The initiative established collaborations with Lesbian, Gay, Bisexual, Transgender, or Questioning (LGBTQ) community-based organizations, high school and medical school students, community members and local health departments to strengthen the existing Gay/MSM initiatives and to assist with implementing a portion of the initiative. These organizations serve as the initiative's community advisory planning group.

A key component of the initiative is an ongoing series of community conversations or "open forums" that provide an opportunity for the general public and Gay/MSM community to learn more about the HIV/AIDS epidemic among gay/MSM. The Initiative uses this platform to engage the residents of Michigan in dialogues focused on the epidemic and to mobilize them around activities designed to improve prevention strategies for gay/MSM across the state.

The 10 LHD jurisdictions in the state of Michigan with the highest prevalence of HIV were chosen as the locations for the community conversations. The first wave of community conversations was held in 2010. The information gathered from each forum has been compiled with recommendations from other conversations to produce a comprehensive needs assessment to address HIV prevention needs, HIV risk and protective factors of gay/MSM, prevention strategies to utilize and the community partners to engage in the execution of these strategies at the city, county and state level.

The second wave of community conversations was held in 2011 with the goal of summarizing and sharing findings from the first wave of discussions with the gay/MSM community, receiving more input on the next steps, prioritizing the recommendations and mobilizing community members around activities designed to improve prevention strategies for gay/MSM. In addition, the initiative held two additional open dialogues with the transgender community and youth and young adult gay/MSM community by involving Parent, Family & Friends of Lesbian and Gays (PFLAG) chapters, Gay Straights Allies (GSA), and local students.

As a result of 20 dialogues, the recommendations are to raise HIV community awareness, enhance prevention education in schools, address homophobia and HIV-related stigma, continue ongoing dialogues with the gay/MSM community, increase HIV testing in non-traditional settings, increase visibility in the GLBTQ community, include the transgender community in the initiative, include GLBTQ youth and young adults in dialogue, provide group-level interventions, and improve HIV prevention and care services.

In late 2011, the initiative began implementing the recommendations with the advisory planning group and one of the actions they took included providing "HIV 101" presentations to three PFLAG chapters with plans to conduct skills building workshops to support parents as the primary sexuality educators of their GLBTQ youth.

2014 Profile of HIV in Michigan (Statewide)

Special Populations: Women, Infants, Children, and Youth

Data from enhanced HIV/AIDS Reporting System (eHARS) &
Michigan Ryan White Program

Overview:

Part D of the Michigan Ryan White program is used to coordinate and enhance services for women, infants, children, and youth (WICY). Women are females over the age of 25 years, infants are those less than two years of age, children are those between the ages of 2 and 13 years, and youth are those ages 13-24 years. Part D supports services for children, youth, women, and families living with HIV. Part D services are designed to be comprehensive, community-based, culturally competent, and family-centered. Funded agencies provide primary and specialty medical care, psychological services, logistical coordination and support, outreach, and case management. Part D employs family case managers and family advocates who serve to link families with needed care across service systems. The Part D Program works to assure that HIV positive women have access to medical therapies that reduce transmission of HIV to their newborn(s), as well as access to clinical trials that provide them state-of-the-art treatment. Part D further assures that HIV-exposed and HIV-positive children, and youth, have access to available clinical trials.

As of January 2014, there were 4,410 WICY living with HIV in Michigan. Of these, 3,363 (76 percent) are women, 984 (22 percent) are youth, and 63 are infants/children (one percent). Of the 4,410 currently living HIV-positive WICY, 1,999 had a diagnosis of stage 3 HIV infection (AIDS). Thirty-six percent of these cases were diagnosed with stage 3 at the time of their initial HIV diagnosis (late HIV diagnosis) (data not shown in tables).

Demographic characteristics:

The majority (34 percent) of HIV-positive women currently living in Michigan were aged 30-39 at the time of diagnosis, followed by ages 40-49 (20 percent), ages 25-29 (17 percent), and 20-24 (14 percent). Women of other ages make up 14 percent or less of all women living with HIV in Michigan. The majority (70 percent) of women are black, 20 percent are white, five percent are Hispanic, and four percent are of other/unknown race. Seventy-nine percent of youth are black, 12 percent are white, and four percent are Hispanic. The remaining five percent are of other/unknown race. Almost two thirds (65 percent) of infants and children living with HIV in Michigan are black, 13 percent are white, 10 percent are Hispanic, and 13 percent are of other/unknown race (data not shown in tables).

Risk:

The most common risk among women was heterosexual contact (67 percent), while 17 percent reported injection drug use (IDU). Sixty-three percent of cases among youth reported male-male sex, 12 percent were infected perinatally, and nine percent reported heterosexual contact. Fifteen percent of cases among women and youth had undetermined risk. All infants and children were infected perinatally with the exception of 21 percent who had undetermined risk.

Geographic distribution:

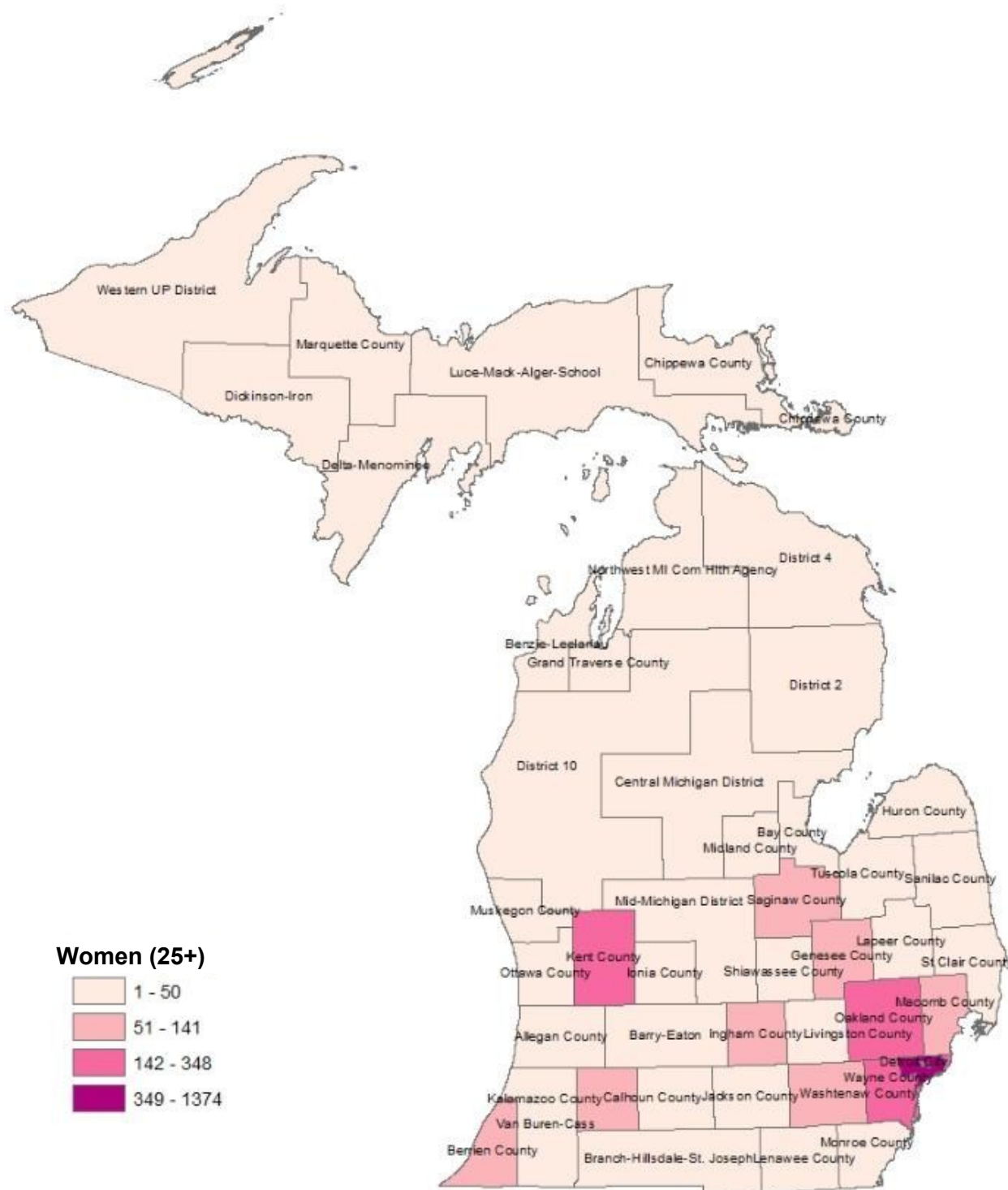
About two thirds (66 percent) of women resided in the DMA as of January 2014. Almost three-quarters (71 percent) of youth were living in the DMA. Twenty-eight percent of youth resided in Out-State Michigan, and one percent were incarcerated. In contrast to women and youth, the majority (58 percent) of infants and children were living in Out-State Michigan as of January 2014 (data not shown in tables). Figures 93, 94 and 95 on the following pages show the number of prevalent HIV cases among women, youth, and children/infants by local health department jurisdiction.

2014 Profile of HIV in Michigan (Statewide)

Special Populations: Women, Infants, Children, and Youth

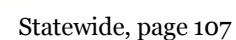
Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 99: Reported prevalence of women (ages 25 and over) living with HIV in Michigan by local health department jurisdiction, January 2014



Special Populations: Women, Infants, Children, and Youth

Figure 100: Reported prevalence of youth (ages 13-24) living with HIV in Michigan by local health department jurisdiction, January 2014

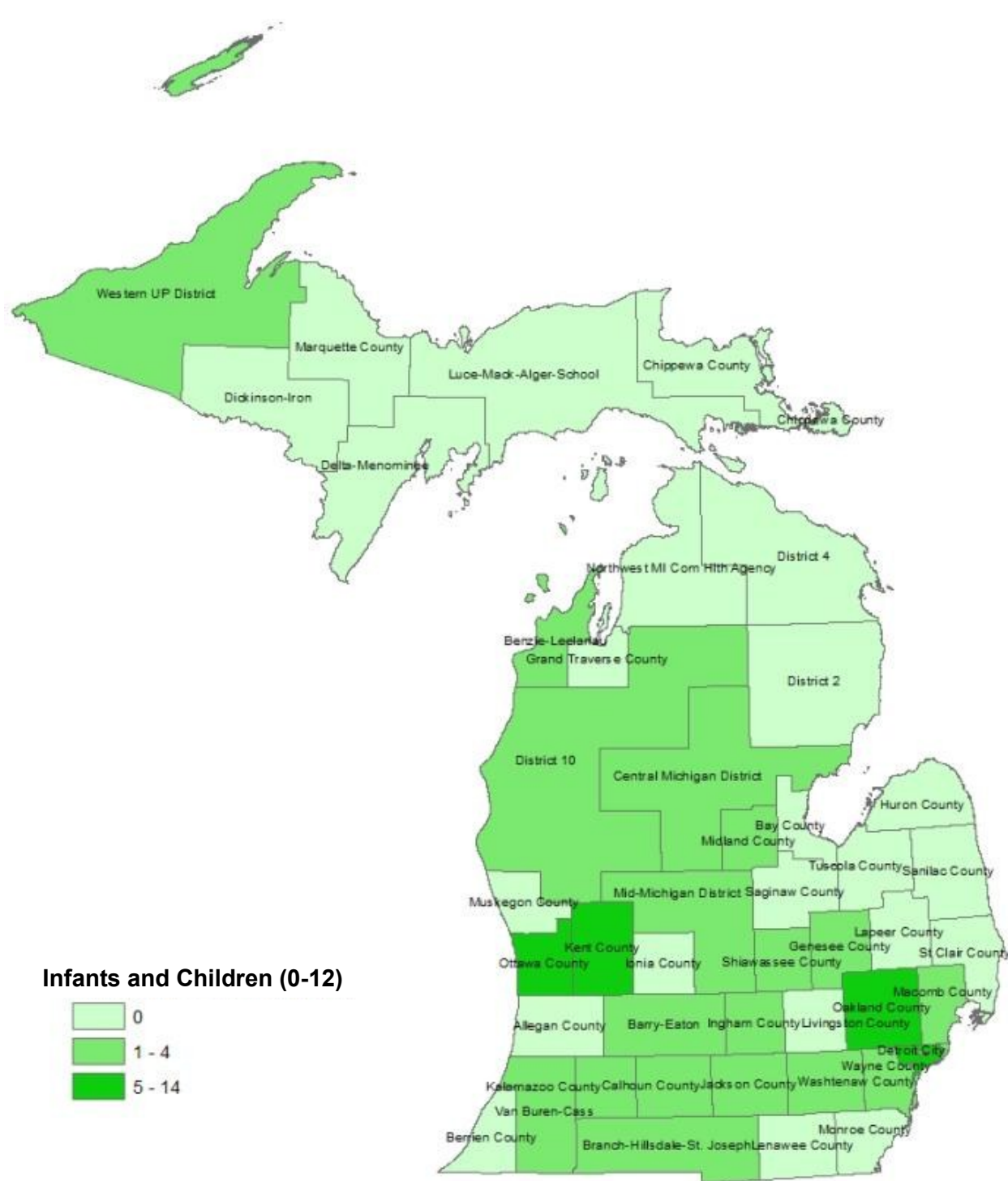


2014 Profile of HIV in Michigan (Statewide)

Special Populations: Women, Infants, Children, and Youth

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 101: Reported prevalence of infants and children (ages 0-12) living with HIV in Michigan by local health department jurisdiction, January 2014



2014 Profile of HIV in Michigan (Statewide)

Special Populations: Transgender Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

In April 2010, the Michigan Department of Community Health (MDCH) added a current gender variable to the adult HIV case report form (ACRF) in an effort to collect data on HIV-positive gender-variant minorities, such as transgender persons. It is important to note that collection of the current gender variable is quite new, and numbers presented here are considered a minimum estimate of the actual number of HIV-positive transgender persons in Michigan. Data from HIV counseling and testing sites and epidemiologic studies suggest high rates of HIV infection among transgender persons (Centers for Disease Control and Prevention, *Guidance for HIV Surveillance Programs: Working with Transgender-Specific Data*, version 1.0). For this reason, it is important to provide surveillance data on transgender persons to prevention partners in order to facilitate improved prevention efforts among this high-risk group.

Individuals are included in this analysis if they meet the definition of transgender as defined by the Gay and Lesbian Alliance Against Defamation (GLAAD): “An umbrella term (adj.) for people whose gender identity and/or gender expression differs from the sex they were assigned at birth. The term may include but is not limited to: transsexuals, cross-dressers and other gender-variant people. Transgender people may identify as female-to-male (FTM) or male-to-female (MTF). Use the descriptive term (transgender, transsexual, cross-dresser, FTM or MTF) preferred by the individual. Transgender people may or may not decide to alter their bodies hormonally and/or surgically.” A modified version of this definition was used by the MDCH Division of Health, Wellness, and Disease Control, HIV/AIDS Prevention and Intervention Section (HAPIS) in their 2010-2013 prevention plan.

As of January 2014, there were 115 transgender persons ever diagnosed with HIV with a current residence of Michigan. Ninety-two of those individuals were alive and living in Michigan as of January 2014. Table 7 presents demographic information on these 92 prevalent transgender cases. All 92 individuals were born male but currently identify or express their gender as female (MTF). According to CDC guidance, some of these individuals would be classified as “Additional Gender Identity”, such as transvestites, cross-dressers, and drag queens. Due to small cell numbers, this distinction is not made in the analysis. Rates are not calculated as there is not an accurate estimate of the total number of transgender persons living in Michigan for the denominator. Please note that all other analyses/tables in this document are based on sex at birth; therefore, male to female transgender persons are included in the ‘male’ category.

Of the 92 currently living HIV-positive transgender persons, 44 had a diagnosis of stage 3 HIV infection (AIDS). Twenty-seven percent of these cases were diagnosed with stage 3 at the time of their initial HIV diagnosis (late HIV diagnosis) (data not shown in tables).

Demographic characteristics:

Table 7 shows demographic characteristics of HIV-positive transgender persons currently living in Michigan. The majority (85 percent) of HIV-positive transgender persons are black. Almost half (46 percent) were between 13 and 24 years old at the time of diagnosis, while 26 percent were 25-29 years old. Eighty-five percent were living in the Detroit Metro Area as of January 2014. Twelve percent resided in Out-State Michigan and three percent were incarcerated. Seven (eight percent) of the 92 currently living transgender persons have ever been incarcerated (data not shown in tables).

2014 Profile of HIV in Michigan (Statewide)

Special Populations: Transgender Persons

Data from enhanced HIV/AIDS Reporting System (eHARS)

Table 7: Demographic characteristics of HIV-positive transgender persons currently living in Michigan, 2014

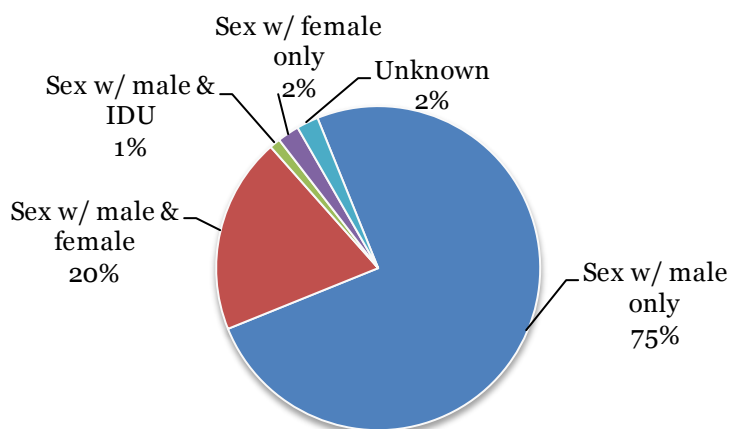
	Number	Percent
Male to female (MTF)	92	100%
Race/ethnicity		
White, non-Hispanic	5	5%
Black, non-Hispanic	80	87%
Hispanic, all races	3	3%
Other/unknown	4	4%
Age at HIV diagnosis		
13-24 years	42	46%
25-29 years	24	26%
30-39 years	15	16%
40 years and older	11	12%
Current residence		
DMA	78	85%
Out-State	11	12%
In prison	3	3%
Total	92	100%

Risk:

As a result of having been assigned male sex at birth, transgender male to female persons are often classified as men who have sex with men (MSM) based on the CDC risk hierarchy. Figure 102 shows the modes of exposure to HIV for the 92 prevalent transgender HIV cases based on the behavior rather than risk transmission categories.

Seventy-five percent of the cases reported sex with males only, while 20 percent reported sex with both males and females. Two percent reported sex with females, and only one percent had sex with males and injected drugs (IDU).

Figure 102: Transgender persons currently living with HIV infection in Michigan, by risk (n = 92 MTF)



2014 Profile of HIV in Michigan (Statewide)

Special Populations: Transgender Persons

Data from Community Health Awareness Group/
Michigan AIDS Coalition Focus Groups

Focus group discussions:

The Community Health Awareness Group (CHAG), in collaboration with the Michigan AIDS Coalition (MAC), conducted a series of focus groups in March and April 2012 targeting young transgender women of color.

Ages of participants ranged from 21 to 57, and 97 percent were African American. Participants reported living as women for an average of 15 years (ranging from two to 42 years). All had accessed HIV testing within the past year, and only a small percentage had been tested for hepatitis C virus (HCV). A total of 71 percent rated themselves at medium to high risk for HIV; the reverse was true for HCV, with 71 percent rating themselves as low risk or not at risk for HCV. The participants also discussed various risk behaviors for HIV and HCV. These included:

- Not using condoms, particularly among the younger girls who “prostituted themselves”;
- Sex as validation, which has nothing to do with prostitution –e.g., a fascination that men want to have sex with you as a woman, which may also cause issues around using condoms;
- Injecting at pump parties or injections of silicon or Crisco, which creates shared needle risks as well as other health problems;
- Many girls dating the same men in the community with diseases being passed around.

Stereotypes and stigma were also consistent topics. It was discussed that not all transgender women engage in exchange sex because they are out on the streets and need money. Many have full-time jobs but see having sex with anyone as validating them as a woman.

Participants saw medical care as important and incorporated it into larger pictures within their lives rather than just as access to health insurance and physicians. They perceived stigma within the healthcare system, often related to sensitivity around gender reassignment or having both breasts and a penis. Having medical professionals who were able to focus on the standard medical treatment for disease conditions (e.g., bronchitis/nodes on vocal cords, breast exams for lumps, bladder infections) rather than having to explain the physicality of being transgender every time they seek out care was a priority. Medical emergencies where physicians and nurses were unprepared for transgender persons were cited as examples. The importance of recognizing their legal rights, such as name changes on medical records, was also described.

Mentoring from older women to younger girls was noted as important, particularly for realizing and holding on to the importance of getting a job and going to school.

Table 8: Demographic information on HIV infection cases currently living in Michigan, 2014

REPORTED HIV INFECTION PREVALENCE												
EST PREV*	HIV, non-stage 3			HIV, stage 3 (AIDS)		TOTAL			Late HIV diagnosis		CENSUS 2012 ESTIMATES**	
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num	Percent
RACE/ETHNICITY§												
White	7,360	2,659	34%	3,132	35%	5,791	35%	77	1,409	45%	7,533,928	76%
Black	11,820	4,345	56%	4,949	55%	9,294	55%	671	1,931	39%	1,386,032	14%
Hispanic	1,070	380	5%	465	5%	845	5%	185	223	48%	456,330	5%
Asian/NH/OPI	150	64	1%	56	1%	120	1%	46	29	52%	258,620	3%
AI/AN	50	25	<1%	18	<1%	43	<1%	77	5	28%	55,583	1%
Multi/other/unk	840	290	4%	367	4%	657	4%	N/A	126	34%	192,867	2%
SEX & RACE												
Male	16,680	5,969	77%	7,146	80%	13,115	78%	270	3,068	43%	4,850,511	49%
White male	6,430	2,269	29%	2,788	31%	5,057	30%	136	1,288	46%	3,713,171	38%
Black male	8,600	3,130	40%	3,632	40%	6,762	40%	1028	1,452	40%	657,943	7%
Hispanic male	850	299	4%	370	4%	669	4%	289	187	51%	231,857	2%
Other male	800	271	3%	356	4%	627	4%	253	141	40%	247,540	3%
Female	4,620	1,794	23%	1,841	20%	3,635	22%	72	655	36%	5,032,849	51%
White female	930	390	5%	344	4%	734	4%	19	121	35%	3,820,757	39%
Black female	3,220	1,215	16%	1,317	15%	2,532	15%	348	479	36%	728,089	7%
Hispanic female	220	81	1%	95	1%	176	1%	78	36	38%	224,473	2%
Other female	250	108	1%	85	1%	193	1%	74	19	22%	259,530	3%
RISK†												
Male-male sex (MSM)	10,990	4,015	52%	4,624	51%	8,639	52%	--	1,930	42%	--	--
Injection drug use (IDU)	1,810	528	7%	896	10%	1,424	9%	--	305	34%	--	--
MSM/IDU	880	293	4%	399	4%	692	4%	--	118	30%	--	--
Blood products	110	24	<1%	60	1%	84	1%	--	14	23%	--	--
Heterosexual contact (HC)	3,860	1,409	18%	1,628	18%	3,037	18%	--	591	36%	--	--
HCFR (male)	850	279	4%	390	4%	669	4%	--	157	40%	--	--
HCM (female)	3,010	1,130	15%	1,238	14%	2,368	14%	--	434	35%	--	--
Perinatal	260	133	2%	70	1%	203	1%	--	27	39%	--	--
Undetermined	3,400	1,361	18%	1,310	15%	2,671	16%	--	738	56%	--	--
AGE AT HIV DIAGNOSIS												
0 - 12 years	300	156	2%	82	1%	238	1%	--	25	30%	--	--
13 - 19 years	1,140	540	7%	358	4%	898	5%	--	63	18%	--	--
20 - 24 years	3,170	1,415	18%	1,079	12%	2,494	15%	--	226	21%	--	--
25 - 29 years	3,610	1,396	18%	1,442	16%	2,838	17%	--	434	30%	--	--
30 - 39 years	7,070	2,327	30%	3,229	36%	5,556	33%	--	1,340	41%	--	--
40 - 49 years	4,180	1,337	17%	1,954	22%	3,291	20%	--	1,103	56%	--	--
50 - 59 years	1,480	485	6%	679	8%	1,164	7%	--	418	62%	--	--
60 years and over	340	104	1%	164	2%	268	2%	--	114	70%	--	--
Unspecified	10	3	<1%	0	0%	3	<1%	--	--	--	--	--
AREA OF CURRENT RESIDENCE††												
Detroit Metro	13,470	4,824	62%	5,721	64%	10,545	63%	248	2,384	42%	4,260,270	43%
Out-State	egories.	2,711	35%	3,047	34%	5,758	34%	102	1,290	42%	5,623,090	57%
Prison	370	177	2%	190	2%	367	2%	N/A	41	22%	N/A	N/A
UnknownTT	100	51	1%	29	<1%	80	<1%	N/A	8	28%	N/A	N/A
STATEWIDE TOTAL	21,300	7,763	100%	8,987	100%	16,750	100%	169	3,723	41%	9,883,360	100%

*See pages iv-v for descriptions of prevalence estimate calculations. NOTE: prevalence estimates throughout this document are based on the number of people currently living with HIV in Michigan as of January 2014. Prevalence estimates in other MDCH documents (such as quarterly stats) are based on the number of people living with HIV who were diagnosed in MI.

† See page vi of the Forward for risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

§ In this report, persons described as white, black, Asian/Native Hawaiian or Other Pacific Islander (Asian/NH/OPI), or American Indian/Alaskan Native (AI/AN) are all non-Hispanic; persons described as Hispanic may be of any race.

† The Detroit Metro Area consists of Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State Area.

** Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

†† Unknown residence consists of 80 persons released from prison with unknown current location and two non-prisoners with no known residence.

Table 9: HIV infection cases currently living in Michigan by county of current residence, 2014

**REPORTED HIV INFECTION PREVALENCE (NEED TO ADD CORRECT
STATEWIDE TOTAL ESTIMATE)**

COUNTY	EST PREV*	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL			Late diagnosis		CENSUS 2012 ESTIMATES	
		Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num	Percent
Alcona	10	0	0%	1	<1%	1	<1%	9	1	100%	10,635	<1%
Alger	10	1	<1%	3	<1%	4	<1%	42	0	0%	9,541	<1%
Allegan	140	38	<1%	71	1%	109	1%	97	29	41%	112,039	1%
Alpena	20	3	<1%	11	<1%	14	<1%	48	5	45%	29,234	<1%
Antrim	20	6	<1%	8	<1%	14	<1%	60	3	38%	23,406	<1%
Arenac	10	3	<1%	3	<1%	6	<1%	39	2	67%	15,477	<1%
Baraga	10	1	<1%	3	<1%	4	<1%	46	2	67%	8,683	<1%
Barry	40	8	<1%	20	<1%	28	<1%	47	13	65%	58,990	1%
Bay	100	39	1%	42	<1%	81	<1%	76	17	40%	106,935	1%
Benzie	10	5	<1%	4	<1%	9	<1%	52	1	25%	17,465	<1%
Berrien	340	120	2%	145	2%	265	2%	170	58	40%	156,067	2%
Branch	20	10	<1%	7	<1%	17	<1%	39	4	57%	43,868	<1%
Calhoun	230	86	1%	93	1%	179	1%	132	26	28%	135,099	1%
Cass	40	15	<1%	15	<1%	30	<1%	57	6	40%	52,242	1%
Charlevoix	10	3	<1%	8	<1%	11	<1%	42	3	38%	26,023	<1%
Cheboygan	20	3	<1%	10	<1%	13	<1%	50	2	20%	25,835	<1%
Chippewa	30	10	<1%	10	<1%	20	<1%	51	4	40%	38,917	<1%
Clare	40	13	<1%	18	<1%	31	<1%	101	7	39%	30,753	<1%
Clinton	90	37	<1%	33	<1%	70	<1%	92	8	24%	76,001	1%
Crawford	10	4	<1%	5	<1%	9	<1%	64	4	80%	14,009	<1%
Delta	20	10	<1%	9	<1%	19	<1%	52	2	22%	36,884	<1%
Dickinson	10	3	<1%	4	<1%	7	<1%	27	2	50%	26,220	<1%
Eaton	120	43	1%	49	1%	92	1%	85	20	41%	108,008	1%
Emmet	20	8	<1%	5	<1%	13	<1%	39	4	80%	32,915	<1%
Genesee	710	269	3%	288	3%	557	3%	133	113	39%	418,408	4%
Gladwin	10	2	<1%	4	<1%	6	<1%	24	2	50%	25,484	<1%
Gogebic	10	2	<1%	2	<1%	4	<1%	25	1	50%	16,084	<1%
Grand Traverse	100	35	<1%	40	<1%	75	<1%	84	19	48%	89,112	1%
Gratiot	20	10	<1%	6	<1%	16	<1%	38	4	67%	42,063	<1%
Hillsdale	10	3	<1%	8	<1%	11	<1%	24	4	50%	46,229	<1%
Houghton	20	7	<1%	6	<1%	13	<1%	36	2	33%	36,520	<1%
Huron	10	3	<1%	6	<1%	9	<1%	28	3	50%	32,463	<1%
Ingham	620	238	3%	249	3%	487	3%	173	102	41%	281,723	3%
Ionia	50	18	<1%	19	<1%	37	<1%	58	10	53%	63,941	1%
Iosco	10	4	<1%	5	<1%	9	<1%	35	1	20%	25,357	<1%
Iron	10	1	<1%	3	<1%	4	<1%	35	3	100%	11,587	<1%
Isabella	70	25	<1%	27	<1%	52	<1%	74	10	37%	70,617	1%
Jackson	220	76	1%	97	1%	173	1%	108	37	38%	160,309	2%
Kalamazoo	480	189	2%	185	2%	374	2%	147	63	34%	254,580	3%
Kalkaska	10	4	<1%	0	0%	4	<1%	23	--	--	17,099	<1%
Kent	1,350	477	6%	581	6%	1,058	6%	172	258	44%	614,462	6%
Keweenaw	10	0	0%	0	0%	0	0%	0	--	--	2,215	<1%
Lake	20	5	<1%	9	<1%	14	<1%	122	5	56%	11,498	<1%
Lapeer	60	21	<1%	23	<1%	44	<1%	50	10	43%	88,173	1%
Leelanau	tegories.	4	<1%	6	<1%	10	<1%	46	4	67%	21,607	<1%
Lenawee	60	23	<1%	21	<1%	44	<1%	44	11	52%	98,987	1%
Livingston	100	39	1%	42	<1%	81	<1%	44	21	50%	182,838	2%
Luce	10	1	<1%	1	<1%	2	<1%	31	0	0%	6,522	<1%

Table 9: HIV infection cases currently living in Michigan by county of current residence, 2014 (continued)

REPORTED HIV INFECTION PREVALENCE												
COUNTY	EST PREV*	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL			Late diagnosis		CENSUS 2012 ESTIMATES	
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000 [†]	Num	Percent of stage 3 cases	Num	Percent
Mackinac	10	5	<1%	1	<1%	6	<1%	54	0	0%	11,137	<1%
Macomb	1,120	439	6%	436	5%	875	5%	103	205	47%	847,383	9%
Manistee	10	2	<1%	6	<1%	8	<1%	32	2	33%	24,672	<1%
Marquette	50	13	<1%	29	<1%	42	<1%	62	19	66%	67,906	1%
Mason	30	6	<1%	14	<1%	20	<1%	70	6	43%	28,680	<1%
Mecosta	30	9	<1%	11	<1%	20	<1%	46	4	36%	43,318	<1%
Menominee	10	4	<1%	1	<1%	5	<1%	21	1	100%	23,815	<1%
Midland	40	15	<1%	14	<1%	29	<1%	35	8	57%	83,822	1%
Missaukee	10	5	<1%	2	<1%	7	<1%	47	1	50%	15,031	<1%
Monroe	100	42	1%	40	<1%	82	<1%	54	20	50%	151,048	2%
Montcalm	40	17	<1%	15	<1%	32	<1%	51	9	60%	63,097	1%
Montmorency	10	0	0%	4	<1%	4	<1%	42	3	75%	9,476	<1%
Muskegon	210	84	1%	80	1%	164	1%	96	34	43%	170,182	2%
Newaygo	40	12	<1%	16	<1%	28	<1%	58	3	19%	47,959	<1%
Oakland	2,590	968	12%	1,059	12%	2,027	12%	166	450	42%	1,220,657	12%
Oceana	10	4	<1%	2	<1%	6	<1%	23	2	100%	26,310	<1%
Ogemaw	10	2	<1%	5	<1%	7	<1%	33	2	40%	21,437	<1%
Ontonagon	10	0	0%	3	<1%	3	<1%	47	2	67%	6,413	<1%
Osceola	10	4	<1%	7	<1%	11	<1%	47	4	57%	23,276	<1%
Oscoda	10	2	<1%	2	<1%	4	<1%	47	0	0%	8,592	<1%
Otsego	20	6	<1%	9	<1%	15	<1%	62	4	44%	24,020	<1%
Ottawa	160	53	1%	75	1%	128	1%	48	41	55%	269,099	3%
Presque Isle	10	1	<1%	3	<1%	4	<1%	30	2	67%	13,129	<1%
Roscommon	20	4	<1%	11	<1%	15	<1%	62	5	45%	24,106	<1%
Saginaw	340	134	2%	131	1%	265	2%	134	54	41%	198,353	2%
Sanilac	30	12	<1%	10	<1%	22	<1%	52	5	50%	42,268	<1%
Schoolcraft	10	1	<1%	1	<1%	2	<1%	24	--	--	8,343	<1%
Shiawassee	40	16	<1%	15	<1%	31	<1%	45	8	53%	69,232	1%
St. Clair	140	58	1%	51	1%	109	1%	68	22	43%	160,644	2%
St. Joseph	60	22	<1%	23	<1%	45	<1%	74	11	48%	60,796	1%
Tuscola	10	6	<1%	4	<1%	10	<1%	18	1	25%	54,662	1%
Van Buren	100	35	<1%	40	<1%	75	<1%	99	15	38%	75,454	1%
Washtenaw	830	329	4%	323	4%	652	4%	186	145	45%	350,946	4%
Wayne Total	9,460	3,296	42%	4,112	46%	7,408	44%	413	1,677	41%	1,792,365	18%
Wayne, excl. Detroit	2,330	808	10%	1,014	11%	1,822	11%	167	433	43%	1,090,890	11%
Detroit	7,140	2,488	32%	3,098	34%	5,586	33%	796	1,244	40%	701,475	7%
Wexford	20	4	<1%	8	<1%	12	<1%	37	2	25%	32,608	<1%
AREA [†]												
Detroit Metro	13,470	4,824	62%	5,721	64%	10,545	63%	248	2,384	42%	4,260,270	43%
Out-State	7,360	2,711	35%	3,047	34%	5,758	34%	102	1,290	42%	5,623,090	57%
Prison	370	177	2%	190	2%	367	2%	N/A	41	22%	N/A	N/A
Unknown [§]	100	51	1%	29	<1%	80	<1%	N/A	8	28%	N/A	N/A
STATEWIDE TOTAL	21,300	7,763	100%	8,987	100%	16,750	100%	169	3,723	41%	9,883,360	100%

*See pages iv-v for descriptions of prevalence estimate calculations. NOTE: prevalence estimates throughout this document are based on the number of people currently living with HIV in Michigan as of January 2014. Prevalence estimates in other MDCH documents (such as quarterly stats) are based on the number of people living with HIV who were diagnosed in MI.

[†] The Detroit Metro Area consists of Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State Area.

[§] Unknown residence consists of 80 persons released from prison with unknown current location and two non-prisoners with no known residence.

Table 10: Risk transmission and exposure categories for HIV infection cases currently living in Michigan by sex, 2014

REPORTED HIV INFECTION PREVALENCE						
	Male		Female		Overall	
	Num	Percent	Num	Percent	Num	Percent
RISK TRANSMISSION CATEGORIES (CDC Hierarchy)*§						
(Mutually exclusive: one case is represented in ONLY one category)						
Male-male sex (MSM)	8,639	66%	N/A	--	8,639	52%
Injection drug use (IDU)	822	6%	602	17%	1,424	9%
MSM/IDU	692	5%	N/A	--	692	4%
Blood products	71	1%	13	<1%	84	1%
Heterosexual contact (HC)	669	5%	2,368	65%	3,037	18%
HCFR (male)	669	5%	N/A	--	669	4%
HCM (female)	N/A	--	2,368	65%	2,368	14%
Perinatal	111	1%	92	3%	203	1%
Undetermined	2,111	16%	560	15%	2,671	16%
EXPOSURE CATEGORIES**†						
(Mutually exclusive: one case is represented in ONLY one category)						
Male-male sex only	5,657	43%	N/A	--	5,657	34%
MSM & HC	2,941	22%	N/A	--	2,941	18%
MSM & IDU	308	2%	N/A	--	308	2%
MSM & blood products	21	<1%	N/A	--	21	<1%
MSM & HC & IDU	370	3%	N/A	--	370	2%
MSM & HC & blood products	20	<1%	N/A	--	20	<1%
MSM & IDU & blood products	4	<1%	N/A	--	4	<1%
MSM & HC & IDU & blood products	10	<1%	N/A	--	10	<1%
Heterosexual contact only	2,156	16%	2,721	75%	4,877	29%
HC & IDU	630	5%	530	15%	1,160	7%
HC & blood products	48	<1%	40	1%	88	1%
HC & IDU & blood products	18	<1%	13	<1%	31	<1%
Injection drug use only	173	1%	60	2%	233	1%
IDU & blood products	1	<1%	0	0%	1	<1%
Perinatal exposure	111	1%	92	3%	203	1%
Exposure to blood products only	38	<1%	3	<1%	41	<1%
Undetermined	609	5%	176	5%	785	5%
TOTAL	13,115	100%	3,635	100%	16,750	100%
SUMMARIZED EXPOSURE CATEGORIES*						
(NOT mutually exclusive: one case may be represented in multiple categories)						
Any MSM	9,331	71%	N/A	--	9,331	56%
Behaviorally bisexual males	3,341	25%	N/A	--	3,341	20%
Any heterosexual contact	6,193	47%	3,304	91%	9,497	57%
Any IDU	1,514	12%	603	17%	2,117	13%

*See page vi for descriptions of risk transmission and exposure categories.

§ Risk transmission categories are grouped based on hierarchical categories determined by the CDC. Any one person with multiple risks is only represented in the highest category, with the exception of MSM/IDU (based on the hierarchical algorithm).

† Exposure categories are mutually exclusive and grouped to allow all possible combinations of exposures that any one person may have. NOTE: Heterosexual contact (HC) in exposure categories includes males and females who had heterosexual contact, regardless of what is known about their partners' risk or HIV status.

* Summarized exposure categories are NOT mutually exclusive, i.e. a case may be represented in multiple categories. These summarized categories are meant to give a broader picture of exposure and will NOT add up to the total number of persons living with HIV infection.

Table 11: Sex, race, and risk among HIV infection cases currently living in Michigan, 2014

MALE

	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	3,861	76%	4,000	59%	391	58%	387	62%	8,639	66%
Injection drug use (IDU)	175	3%	554	8%	59	9%	34	5%	822	6%
MSM/IDU	300	6%	297	4%	38	6%	57	9%	692	5%
Blood products	55	1%	11	<1%	2	<1%	3	<1%	71	1%
Heterosexual contact (HCFR)	137	3%	459	7%	52	8%	21	3%	669	5%
Perinatal	16	<1%	76	1%	7	1%	12	2%	111	1%
Undetermined	513	10%	1,365	20%	120	18%	113	18%	2,111	16%
Male Subtotal	5,057	39%	6,762	52%	669	5%	627	5%	13,115	100%

FEMALE

	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	147	20%	399	16%	29	16%	27	14%	602	17%
Blood products	9	1%	2	<1%	1	1%	1	1%	13	<1%
Heterosexual contact (HCM)	478	65%	1,637	65%	125	71%	128	66%	2,368	65%
Perinatal	9	1%	66	3%	10	6%	7	4%	92	3%
Undetermined	91	12%	428	17%	11	6%	30	16%	560	15%
Female Subtotal	734	20%	2,532	70%	176	5%	193	5%	3,635	100%

ALL

	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	3,861	67%	4,000	43%	391	46%	387	47%	8,639	52%
Injection drug use (IDU)	322	6%	953	10%	88	10%	61	7%	1,424	9%
MSM/IDU	300	5%	297	3%	38	4%	57	7%	692	4%
Blood products	64	1%	13	<1%	3	<1%	4	<1%	84	1%
Heterosexual contact (HC)	615	11%	2,096	23%	177	21%	149	18%	3,037	18%
HCFR (male)	137	2%	459	5%	52	6%	21	3%	669	4%
HCM (female)	478	8%	1,637	18%	125	15%	128	16%	2,368	14%
Perinatal	25	<1%	142	2%	17	2%	19	2%	203	1%
Undetermined	604	10%	1,793	19%	131	16%	143	17%	2,671	16%

RACE ALL

5,791 35% 9,294 55% 845 5% 820 5% 16,750 100%

Table 12: Sex, race, and age at HIV diagnosis among HIV infection cases currently living in Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	32	1%	82	1%	7	1%	13	2%	134	1%
13 - 19 years	91	2%	535	8%	22	3%	32	5%	680	5%
20 - 24 years	491	10%	1,287	19%	100	15%	108	17%	1,986	15%
25 - 29 years	850	17%	1,130	17%	137	20%	112	18%	2,229	17%
30 - 39 years	1,920	38%	2,011	30%	237	35%	212	34%	4,380	33%
40 - 49 years	1,173	23%	1,204	18%	109	16%	110	18%	2,596	20%
50 - 59 years	400	8%	430	6%	40	6%	34	5%	904	7%
60 years and over	100	2%	81	1%	17	3%	6	1%	204	2%
Unknown	0	0%	2	<1%	0	0%	0	0%	2	<1%
Male Subtotal	5,057	39%	6,762	52%	669	5%	627	5%	13,115	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	13	2%	73	3%	11	6%	7	4%	104	3%
13 - 19 years	54	7%	143	6%	12	7%	9	5%	218	6%
20 - 24 years	129	18%	332	13%	24	14%	23	12%	508	14%
25 - 29 years	131	18%	407	16%	32	18%	39	20%	609	17%
30 - 39 years	226	31%	820	32%	63	36%	67	35%	1,176	32%
40 - 49 years	115	16%	525	21%	25	14%	30	16%	695	19%
50 - 59 years	55	7%	181	7%	8	5%	16	8%	260	7%
60 years and over	10	1%	51	2%	1	1%	2	1%	64	2%
Unknown	1	<1%	0	0%	0	0%	0	0%	1	<1%
Female Subtotal	734	20%	2,532	70%	176	5%	193	5%	3,635	100%

ALL	White		Black		Hispanic		Other or unknown		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	45	1%	155	2%	18	2%	20	2%	238	1%
13 - 19 years	145	3%	678	7%	34	4%	41	5%	898	5%
20 - 24 years	620	11%	1,619	17%	124	15%	131	16%	2,494	15%
25 - 29 years	981	17%	1,537	17%	169	20%	151	18%	2,838	17%
30 - 39 years	2,146	37%	2,831	30%	300	36%	279	34%	5,556	33%
40 - 49 years	1,288	22%	1,729	19%	134	16%	140	17%	3,291	20%
50 - 59 years	455	8%	611	7%	48	6%	50	6%	1,164	7%
60 years and over	110	2%	132	1%	18	2%	8	1%	268	2%
Unknown	1	<1%	2	<1%	0	0%	0	0%	3	<1%
RACE ALL	5,791	35%	9,294	55%	845	5%	820	5%	16,750	100%

Table 13: Sex, risk, and age at HIV diagnosis among HIV infection cases currently living in Michigan, 2014

MALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	545	80%	1,590	80%	1,618	73%	2,876	66%	1,450	56%	463	51%	97	48%	8,639	66%
Injection drug use	0	0%	4	1%	32	2%	77	3%	306	7%	290	11%	99	11%	13	6%	821	6%
MSM/IDU	0	0%	15	2%	81	4%	144	6%	278	6%	140	5%	34	4%	0	0%	692	5%
Blood products	14	10%	19	3%	11	1%	12	1%	10	<1%	4	<1%	1	<1%	0	0%	71	1%
Heterosexual contact (HCFR)	0	0%	10	1%	52	3%	109	5%	251	6%	166	6%	64	7%	17	8%	669	5%
Perinatal	106	79%	5	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	111	1%
Undetermined	14	10%	82	12%	220	11%	269	12%	659	15%	546	21%	243	27%	77	38%	2,110	16%
Male Subtotal*	134	1%	680	5%	1,986	15%	2,229	17%	4,380	33%	2,596	20%	904	7%	204	2%	13,113	100%
FEMALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use	0	0%	14	6%	59	12%	93	15%	233	20%	149	21%	44	17%	10	16%	602	17%
Blood products	0	0%	2	1%	2	<1%	0	0%	4	<1%	1	<1%	2	1%	2	3%	13	<1%
Heterosexual contact (HCM)	0	0%	170	78%	369	73%	421	69%	769	65%	431	62%	173	67%	35	55%	2,368	65%
Perinatal	90	87%	2	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	92	3%
Undetermined	14	13%	30	14%	78	15%	95	16%	170	14%	114	16%	41	16%	17	27%	559	15%
Female Subtotal*	104	3%	218	6%	508	14%	609	17%	1,176	32%	695	19%	260	7%	64	2%	3,634	100%
ALL	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	545	61%	1,590	64%	1,618	57%	2,876	52%	1,450	44%	463	40%	97	36%	8,639	52%
Injection drug use	0	0%	18	2%	91	4%	170	6%	539	10%	439	13%	143	12%	23	9%	1,423	8%
MSM/IDU	0	0%	15	2%	81	3%	144	5%	278	5%	140	4%	34	3%	0	0%	692	4%
Blood products	14	6%	21	2%	13	1%	12	<1%	14	<1%	5	<1%	3	<1%	2	1%	84	1%
Heterosexual contact (HC)	0	0%	180	20%	421	17%	530	19%	1,020	18%	597	18%	237	20%	52	19%	3,037	18%
HCFR (male)	0	0%	10	1%	52	2%	109	4%	251	5%	166	5%	64	5%	17	6%	669	4%
HCM (female)	0	0%	170	19%	369	15%	421	15%	769	14%	431	13%	173	15%	35	13%	2,368	14%
Perinatal	196	82%	7	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	203	1%
Undetermined	28	12%	112	12%	298	12%	364	13%	829	15%	660	20%	284	24%	94	35%	2,669	16%
AGE TOTAL *	238	1%	898	5%	2,494	15%	2,838	17%	5,556	33%	3,291	20%	1,164	7%	268	2%	16,747*	100%

*Not included in this table are the following 3 cases with unknown age at diagnosis: one male IDU, one male with unknown risk, and one female with unknown risk.

Table 14: Estimated number and rate of new HIV infections in Michigan and the U.S., 2006-2010

	2006			2007				2008				2009				2010			
	Num*	Percent	MI rate†	Num*	Percent	MI rate†	U.S. rate‡	Num*	Percent	MI rate†	U.S. rate‡	Num*	Percent	MI rate†	U.S. rate‡	Num*	Percent	MI rate†	U.S. rate‡
SEX																			
Male	529	74%	13.1	726	80%	18.0	32.6	507	74%	12.6	28.9	521	76%	13.0	27.7	537	82%	13.4	30.7
Female	190	26%	4.5	185	20%	4.3	10.7	179	26%	4.2	9.4	162	24%	3.8	8.2	120	18%	2.8	7.3
RACE/ETHNICITY																			
White	254	35%	3.8	305	34%	4.6	9.9	176	26%	2.7	8.2	277	41%	4.2	8.3	242	37%	3.7	8.7
Black	355	65%	30.8	504	55%	43.6	79.4	447	65%	38.7	73.8	352	52%	30.5	64.9	352	54%	30.4	68.9
AGE AT HIV DIAGNOSIS																			
13 - 24 years	151	21%	8.7	286	31%	16.5	21.2	233	34%	13.6	21	222	33%	13.1	20.9	237	36%	14.1	23.7
25 - 34 years	197	27%	16.2	269	30%	22.5	40.2	177	26%	15.0	36	190	28%	16.3	31.9	222	34%	19.0	34.9
35 - 44 years	192	27%	13.3	251	28%	1.9	35.9	141	21%	10.4	29.3	122	18%	9.3	28.2	67	10%	5.3	27.3
45 and over	177	25%	4.5	N/A**	N/A**	N/A**	N/A¶	136	20%	3.4	N/A¶	149	22%	3.7	N/A¶	130	20%	3.1	N/A¶
RISK																			
Male-male Sex (MSM)	457	64%	N/A^	624	69%	N/A^	N/A^	426	62%	N/A^	N/A^	438	64%	N/A^	N/A^	488	74%	N/A^	N/A^
Injection drug use (IDU)	N/A**	N/A**	N/A^	N/A**	N/A**	N/A^	N/A^	122	18%	N/A^	N/A^	97	14%	N/A^	N/A^	63	10%	N/A^	N/A^
Heterosexual contact (HC)	187	26%	N/A^	220	24%	N/A^	N/A^	140	20%	N/A^	N/A^	148	22%	N/A^	N/A^	104	16%	N/A^	N/A^
MSM BY RACE & AGE																			
Black MSM	229	32%	N/A^	304	33%	N/A^	N/A^	279	41%	N/A^	N/A^	202	30%	N/A^	N/A^	243	37%	N/A^	N/A^
White MSM	172	24%	N/A^	239	26%	N/A^	N/A^	122	18%	N/A^	N/A^	202	30%	N/A^	N/A^	197	30%	N/A^	N/A^
Black MSM, 13-24 years	96	13%	N/A^	130	14%	N/A^	N/A^	151	22%	N/A^	N/A^	110	16%	N/A^	N/A^	140	21%	N/A^	N/A^
Black MSM, >24 years	133	19%	N/A^	175	19%	N/A^	N/A^	128	19%	N/A^	N/A^	92	13%	N/A^	N/A^	102	16%	N/A^	N/A^
White MSM, >24 years	151	21%	N/A^	189	21%	N/A^	N/A^	87	13%	N/A^	N/A^	161	24%	N/A^	N/A^	146	22%	N/A^	N/A^
SEX & RACE																			
Black Male	273	38%	50.8	383	42%	71.0	110	340	50%	63.1	102.7	242	35%	45.0	94.6	271	41%	50.1	103.6
White Male	183	25%	5.7	252	28%	7.8	16.8	140	20%	4.4	14.2	246	36%	7.7	14.4	212	32%	6.7	15.8
Black Females	82	11%	13.3	122	13%	19.8	52.4	107	16%	17.4	48.3	110	16%	17.9	38.6	82	13%	13.3	38.1
TOTAL	718	100%	8.6	910	100%	11.0	21.4	686	100%	8.3	18.9	683	100%	8.3	17.8	656	100%	8.0	18.8

* Numbers have been adjusted for reporting delay

† Rate per 100,000 population for ages 13 and older, Vintage 2011 Bridged-Race Postcensal Population Estimates.

‡ U.S. Rates are from Estimated HIV Incidence in the United States, 2007-2010, HIV Surveillance Supplemental Report 2012.

¶ National data not reported in 2007-2010 HIV Surveillance Supplemental Report 2012. For example, CDC did not include a 45+ age group; included 45-54 and 55+ age groups.

** Insufficient data to report this group; did not meet minimum 200/40/10 criteria described in Methods

^ Rates are not reported for risk categories because no reliable denominator data exist for these groups

Table 15: Demographic characteristics of HIV-positive persons with met need compared to HIV-positive persons with unmet need in Michigan, as of January 2014

	Met need		Unmet need		Total		Overall percent unmet need
	Num	Percent of total	Num	Percent of total	Num	Percent of total	
STAGE OF INFECTION							
HIV, non-stage 3	4,286	40%	2,578	53%	6,864	44%	38%
HIV stage 3 (AIDS)	6,348	60%	2,323	47%	8,671	56%	27%
RACE/ETHNICITY*							
White	3,806	36%	1,677	34%	5,483	35%	31%
Black	5,776	54%	2,727	56%	8,503	55%	32%
Hispanic	447	4%	348	7%	795	5%	44%
Asian/NH/OPI	64	1%	44	1%	108	1%	41%
AI/AN	26	<1%	13	<1%	39	<1%	33%
Multi/other/unk	515	5%	92	2%	607	4%	15%
SEX & RACE							
Male	8,283	78%	3,838	78%	12,121	78%	32%
White male	3,338	31%	1,459	30%	4,797	31%	30%
Black male	4,137	39%	1,986	41%	6,123	39%	32%
Hispanic male	356	3%	268	5%	624	4%	43%
Other male	452	4%	125	3%	577	4%	22%
Female	2,351	22%	1,063	22%	3,414	22%	31%
White female	468	4%	218	4%	686	4%	32%
Black female	1,639	15%	741	15%	2,380	15%	31%
Hispanic female	91	1%	80	2%	171	1%	47%
Other female	153	1%	24	<1%	177	1%	14%
RISK							
Male-male sex (MSM)	5,636	53%	2,468	50%	8,104	52%	30%
Injection drug use (IDU)	815	8%	531	11%	1,346	9%	39%
MSM/IDU	448	4%	222	5%	670	4%	33%
Blood recipient	58	1%	26	1%	84	1%	31%
Heterosexual contact (HC)†	2,073	19%	805	16%	2,878	19%	28%
Perinatal	148	1%	47	1%	195	1%	24%
Undetermined	1,456	14%	802	16%	2,258	15%	36%
AGE AT HIV DIAGNOSIS							
0 - 12 yrs	169	2%	60	1%	229	1%	26%
13 - 19 yrs	538	5%	271	6%	809	5%	33%
20 - 24 yrs	1,452	14%	803	16%	2,255	15%	36%
25 - 29 yrs	1,694	16%	936	19%	2,630	17%	36%
30 - 34 yrs	1,806	17%	935	19%	2,741	18%	34%
35 - 39 yrs	1,767	17%	763	16%	2,530	16%	30%
40 - 44 yrs	1,350	13%	531	11%	1,881	12%	28%
45 - 49 yrs	893	8%	310	6%	1,203	8%	26%
50 - 54 yrs	553	5%	161	3%	714	5%	23%
55 - 59 yrs	244	2%	72	1%	316	2%	23%
60 - 64 yrs	110	1%	39	1%	149	1%	26%
65 yrs and older	58	1%	20	<1%	78	1%	26%
CURRENT RESIDENCE							
Detroit Metro Area	6,713	63%	3,032	62%	9,745	63%	31%
Lapeer	31	<1%	9	<1%	40	<1%	23%
Macomb	575	5%	224	5%	799	5%	28%
Monroe	48	<1%	29	1%	77	<1%	38%
Oakland	1,302	12%	597	12%	1,899	12%	31%
St Clair	70	1%	35	1%	105	1%	33%
Wayne, excl. Detroit	1,187	11%	491	10%	1,678	11%	29%
Detroit	3,500	33%	1,647	34%	5,147	33%	32%
Out-State Michigan	3,679	35%	1,764	36%	5,443	35%	32%
Washtenaw	427	4%	183	4%	610	4%	30%
Berrien	134	1%	114	2%	248	2%	46%
Genesee	311	3%	206	4%	517	3%	40%
Allegan, Kent, Muskegon and Ottawa	968	9%	415	8%	1,383	9%	30%
Jackson	131	1%	55	1%	186	1%	30%
Kalamazoo and Calhoun	355	3%	158	3%	513	3%	31%
Clinton, Eaton and Ingham	437	4%	169	3%	606	4%	28%
Saginaw, Bay and Midland	207	2%	136	3%	343	2%	40%
Other Out-State counties	709	7%	328	7%	1,037	7%	32%
Other/unknown§	242	2%	105	2%	347	2%	30%
TOTAL	10,634	100%	4,901	100%	15,535	100%	32%

* In this report, persons described as white, black, Asian/Native Hawaiian or Other Pacific Islander (A/NH/OPI) or American Indian/Alaska Native (AI/AN) are all non-Hispanic. Persons described as Hispanic may be of any race.

† Heterosexual contact (HC) includes males who had sex with females with known risk for HIV (HCFR) and females who had sex with males, regardless of what was known about the male partners' risks (HCM).

§ Persons who are currently in prison are included in 'Other/Unknown' residence.

Table 16: Selected characteristics of HIV-positive persons with viral suppression (<=200 copies/ml) among persons at least 13 years of age living with HIV infection in Michigan as of 2012*

	Overall population		Persons with at least 1 VL test in 2012		Persons with VL<=200 ^{†§}	
	Num	Percent	Num	Percent	Num	Percent
SEX						
Male	11,895	78%	7,362	62%	5,742	78%
Female	3,350	22%	2,189	65%	1,561	71%
AGE AS OF 1/1/2014						
13-19 years	163	1%	126	77%	58	46%
20-24 years	813	5%	537	66%	268	50%
25-29 years	1,087	7%	697	64%	429	62%
30-39 years	2,755	18%	1,699	62%	1,238	73%
40-49 years	5,140	34%	3,151	61%	2,502	79%
50-59 years	3,882	25%	2,477	64%	2,071	84%
60+ years	1,402	9%	864	62%	737	85%
Missing age	3	0%	0	0%	0	--
RACE/ETHNICITY[†]						
Black/African American	8,367	55%	5,247	63%	3,638	69%
Hispanic/Latino	774	5%	398	51%	332	83%
White	5,371	35%	3,374	63%	2,917	86%
Other	733	5%	532	73%	416	78%
RISK						
Male-male sex (MSM)	6,706	44%	3,854	57%	2,677	69%
Injection drug use (IDU) - males	864	6%	409	47%	272	67%
Injection drug use (IDU) - females	612	4%	300	49%	171	57%
MSM/IDU	677	4%	340	50%	219	64%
Heterosexual contact - males [°]	517	3%	283	55%	190	67%
Heterosexual contact - females	1,259	8%	769	61%	502	65%
Other/unknown - males	1,783	12%	878	49%	596	68%
Other/unknown - females	1,185	8%	680	57%	423	62%
COUNTRY OF BIRTH						
U.S.	10,650	70%	6,834	64%	5,162	76%
U.S. dependency	62	<1%	26	42%	22	85%
Foreign country	1,843	12%	962	52%	786	82%
Missing/unknown	2,690	18%	1,729	64%	1,333	77%
TOTAL	15,245	100%	9,551	63%	7,303	76%

*Analysis based on HIV surveillance data reported through 1/1/2014.

[†]Based on the most recent viral load test result from 01/01/2012 through 12/31/2012.

[§] Among persons with at least 1 VL test.

[†]Persons described as white, black, and other are all non-Hispanic; persons described as Hispanic/Latino may be of any race. "Other" includes American Indian/Alaska Native, Asian/Native Hawaiian or Other Pacific Islander, multiple races, and unknown race.

[°] Heterosexual contact with a person known to have, or to have a known risk factor for, HIV infection.

Table 17: Gonorrhea, syphilis, and chlamydia cases by sex, race, and age group, Michigan, 2013

	Gonorrhea			P&S syphilis*			Chlamydia			CENSUS 2012 ESTIMATES	
	Num	Percent	Rate[^]	Num	Percent	Rate[^]	Num	Percent	Rate[^]	Num	Percent
RACE/ ETHNICITY											
White	1,540	15%	20.4	132	27%	1.8	11,632	26%	154.4	7,533,928	76%
Black	5,628	53%	406.1	340	68%	24.5	16,769	37%	1209.9	1,386,032	14%
Hispanic	175	2%	38.3	16	3%	3.5	1,169	3%	256.2	456,330	5%
Other/multi	204	2%	40.2	8	2%	1.6	1,094	2%	215.7	507,070	5%
Unknown race	3,006	28%	N/A	2	<1%	N/A	14,427	32%	N/A	N/A	N/A
SEX & RACE											
Male	4,691	44%	96.7	468	94%	9.6	12,765	28%	263.2	4,850,511	49%
White male	672	6%	18.1	127	26%	3.4	2,840	6%	76.5	3,713,171	38%
Black male	2,581	24%	392.3	316	63%	48.0	5,403	12%	821.2	657,943	7%
Hispanic male	68	1%	29.3	15	3%	6.5	356	1%	153.5	231,857	2%
Other male	77	1%	N/A	8	2%	3.2	313	1%	N/A	247,540	3%
Unknown male	1,293	12%	N/A	2	<1%	N/A	3,853	9%	N/A	N/A	N/A
Female	5,859	56%	116.4	30	6%	0.0	32,283	72%	641.4	5,032,849	51%
White female	868	8%	22.7	5	1%	0.1	8,788	19%	230.0	3,820,757	39%
Black female	3,046	29%	418.4	24	5%	3.3	11,358	25%	1560.0	728,089	7%
Hispanic female	107	1%	47.7	1	<1%	0.4	813	2%	362.2	224,473	2%
Other female	127	1%	48.9	0	0%	0.0	781	2%	300.9	259,530	3%
Unknown female	1,711	16%	N/A	0	0%	N/A	10,543	23%	N/A	N/A	N/A
Unknown sex - all races	3	<1%	N/A	0	0%	N/A	43	<1%	N/A	N/A	N/A
AGE											
0-4 years	7	<1%	1.2	0	0%	0.0	32	<1%	5.6	575,714	6%
5-9 years	2	<1%	0.3	0	0%	0.0	3	<1%	0.5	619,561	6%
10-14 years	94	1%	14.3	0	0%	0.0	541	1%	82.1	659,268	7%
15-19 years	2,716	26%	389.7	39	8%	5.6	14,869	33%	2133.3	697,010	7%
20-24 years	3,926	37%	549.9	157	32%	22.0	18,421	41%	2580.0	713,992	7%
25-29 years	1,745	17%	296.3	101	20%	17.2	6,262	14%	1063.4	588,853	6%
30-34 years	824	8%	139.9	63	13%	10.7	2,462	5%	417.9	589,177	6%
35-39 years	475	5%	83.7	47	9%	8.3	1,161	3%	204.7	567,192	6%
40-44 years	304	3%	46.5	32	6%	4.9	595	1%	90.9	654,359	7%
45-54 years	302	3%	20.8	45	9%	3.1	465	1%	32.0	1,453,683	15%
55-64 years	94	1%	7.1	10	2%	0.8	114	<1%	8.6	1,321,837	13%
65 and over	47	<1%	3.3	4	1%	0.3	112	<1%	7.8	1,442,714	15%
Unknown age	17	<1%	N/A	0	0%	N/A	54	<1%	N/A	N/A	N/A
TOTAL	10,553	100%	106.8	498	100%	5.0	45,091	100%	456.2	9,883,360	100%

*P&S: Primary and secondary syphilis.

[^]Rate per 100,000 population.

Table 18: Gonorrhea, syphilis, and chlamydia cases by area and local health department jurisdiction, 2013

<i>Local health department jurisdiction</i>	<i>Gonorrhea</i>		<i>P&S syphilis*</i>		<i>Chlamydia</i>		<i>CENSUS 2012 ESTIMATES</i>
	Num	Rate[^]	Num	Rate[^]	Num	Rate[^]	Num
Allegan	40	35.7	2	1.8	319	284.7	112,039
Barry/Eaton	60	35.9	2	1.2	465	278.4	166,998
Bay	29	27.1	2	1.9	305	285.2	106,935
Benzie/Leelanau	1	2.6	0	0.0	60	153.6	39,072
Berrien	183	117.3	3	1.9	794	508.8	156,067
Br/Hills/St Joseph	21	13.9	2	1.3	314	208.1	150,893
Calhoun	226	167.3	4	3.0	755	558.8	135,099
Central MI Dist	37	19.5	3	1.6	447	235.6	189,713
Chippewa	4	10.3	0	0.0	134	344.3	38,917
Delta/Menominee	4	6.6	0	0.0	98	161.5	60,699
Dickinson/Iron	4	10.6	0	0.0	54	142.8	37,807
District #2	2	0.8	0	0.0	80	30.6	261,184
District #4	8	12.1	0	0.0	124	187.8	66,021
District #10	19	24.5	0	0.0	527	678.5	77,674
Genesee	907	216.8	14	3.3	2,520	602.3	418,408
Grand Traverse	9	10.1	2	2.2	252	282.8	89,112
Huron	1	3.1	0	0.0	47	144.8	32,463
Ingham	434	154.1	11	3.9	1,839	652.8	281,723
Ionia	12	18.8	0	0.0	128	200.2	63,941
Jackson	55	34.3	3	1.9	630	393.0	160,309
Kalamazoo	286	112.3	6	2.4	1,871	734.9	254,580
Kent	646	105.1	10	1.6	3,767	613.1	614,462
Lapeer	9	10.2	1	1.1	155	175.8	88,173
Lenawee	21	21.2	1	1.0	207	209.1	98,987
Livingston	22	12.0	2	1.1	264	144.4	182,838
LMAS District	6	16.9	0	0.0	51	143.5	35,543
Macomb	578	68.2	34	4.0	2,574	303.8	847,383
Marquette	7	10.3	0	0.0	220	324.0	67,906
Midland	10	11.9	1	1.2	165	196.8	83,822
Mid-MI District	31	17.1	1	0.6	429	236.8	181,161
Monroe	79	52.3	2	1.3	360	238.3	151,048
Muskegon	202	118.7	1	0.6	1,194	701.6	170,182
NW Michigan	16	15.0	0	0.0	183	172.1	106,364
Oakland	870	71.3	71	5.8	3,536	289.7	1,220,657
Ottawa	94	34.9	0	0.0	734	272.8	269,099
Saginaw	267	134.6	4	2.0	1,195	602.5	198,353
Sanilac	-	0.0	0	0.0	65	153.8	42,268
Shiawassee	7	10.1	1	1.4	149	215.2	69,232
St Clair	55	34.2	2	1.2	440	273.9	160,644
Tuscola	15	27.4	0	0.0	120	219.5	54,662
Van Buren/Cass	47	36.8	0	0.0	338	264.7	127,696
Washtenaw	231	65.8	21	6.0	1,378	392.7	350,946
Wayne excl Detroit	1,004	96.0	93	8.9	4,229	404.2	1,046,218
City of Detroit	3,989	534.6	199	26.7	11,490	1539.9	746,147
WestUpDist	5	7.2	0	0.0	85	121.6	69,915
Detroit Metro Area [#]	6,584	154.5	402	9.4	22,784	534.8	4,260,270
Out-State	3,969	70.6	96	1.7	22,307	396.7	5,623,090
TOTAL	10,553	106.8	498	5.0	45,091	456.2	9,883,360

[#]Detroit Metro Area includes Lapeer, Monroe, Macomb, Oakland, St. Clair, and Wayne counties.

* P&S: Primary and secondary syphilis.

[^] Rate per 100,000 population.

Table 19: Reported cases of acute and chronic hepatitis C by sex, race, and age group, Michigan, 2013

	<i>Acute hepatitis C</i>		<i>Chronic hepatitis C</i>			<i>CENSUS 2012 ESTIMATES</i>	
	Num	Percent	Num	Percent	Rate per 100,000*	Num	Percent
SEX							
Male	34	46%	4,299	64%	89	4,850,511	49%
Female	40	54%	2,400	36%	48	5,032,849	51%
Unknown	0	0%	20	<1%	N/A	N/A	N/A
RACE[†]							
White	58	78%	3,194	48%	42	7,533,928	76%
Black	5	7%	1,306	19%	94	1,386,032	14%
Asian	0	0%	23	<1%	9	256,250	3%
Native Hawaiian/Other Pacific Islander	0	0%	0	0%	--	2,370	<1%
American Indian/Alaska Native	1	1%	67	1%	121	55,583	1%
Other	0	0%	90	1%	N/A	N/A	N/A
Unknown race	8	11%	1,942	29%	N/A	N/A	N/A
Multiracial	0	0%	0	0%	0	192,867	2%
AGE							
0-4 years	0	0%	18	<1%	3	575,714	6%
5-9 years	0	0%	2	<1%	--	619,561	6%
10-14 years	0	0%	4	<1%	--	659,268	7%
15-19 years	6	8%	100	1%	14	697,010	7%
20-24 years	15	20%	531	8%	74	713,992	7%
25-29 years	20	27%	571	8%	97	588,853	6%
30-34 years	10	14%	478	7%	81	589,177	6%
35-39 years	6	8%	374	6%	66	567,192	6%
40-44 years	1	1%	394	6%	60	654,359	7%
45-49 years	7	9%	515	8%	74	698,214	7%
50-54 years	5	7%	851	13%	113	755,469	8%
55-64 years	2	3%	2,262	34%	171	1,321,837	13%
65 and over	2	3%	604	9%	42	1,442,714	15%
Unknown age	0	0%	15	<1%	N/A	N/A	N/A
TOTAL	74	100%	6,719	100%		9,883,360	100%

* Rates are not displayed for <10 cases.

† Hispanic ethnicity is not categorized due to incomplete data. Each race category includes both Hispanic and non-Hispanic persons.

Table 20: Sex, race, and risk among HIV-positive persons currently incarcerated in Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	28	49%	83	34%	2	18%	13	46%	126	37%
Injection drug use (IDU)	7	12%	35	14%	3	27%	0	0%	45	13%
MSM/IDU	11	19%	21	9%	2	18%	5	18%	39	11%
Blood products	2	4%	0	0%	0	0%	0	0%	2	1%
Heterosexual contact (HCFR)	3	5%	30	12%	2	18%	2	7%	37	11%
Perinatal	0	0%	3	1%	0	0%	0	0%	3	1%
Undetermined	6	11%	74	30%	2	18%	8	29%	90	26%
Male Subtotal	57	17%	246	72%	11	3%	28	8%	342	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	4	57%	4	36%	0	0%	3	0%	11	44%
Blood Products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	3	43%	7	64%	0	0%	3	0%	13	52%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	0	0%	0	0%	0	0%	1	0%	1	4%
Female Subtotal	7	28%	11	44%	0	0%	7	28%	25	100%

All	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	28	44%	83	32%	2	18%	13	37%	126	34%
Injection drug use (IDU)	11	17%	39	15%	3	27%	3	9%	56	15%
MSM/IDU	11	17%	21	8%	2	18%	5	14%	39	11%
Blood products	2	3%	0	0%	0	0%	0	0%	2	1%
Heterosexual contact (HC)	6	9%	37	14%	2	18%	5	14%	50	14%
HCFR (male)	3	5%	30	12%	2	18%	2	6%	37	10%
HCM (female)	3	5%	7	3%	0	0%	3	9%	13	4%
Perinatal	0	0%	3	1%	0	0%	0	0%	3	1%
Undetermined	6	9%	74	29%	2	18%	9	26%	91	25%
RACE ALL	64	17%	257	70%	11	3%	35	10%	367	100%

Table 21: Sex, race, and age at HIV diagnosis among HIV-positive persons currently incarcerated in Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	0	0%	3	1%	0	0%	0	0%	3	1%
13 - 19 years	2	4%	16	7%	0	0%	2	7%	20	6%
20 - 24 years	16	28%	50	20%	2	18%	7	25%	75	22%
25 - 29 years	16	28%	42	17%	3	27%	4	14%	65	19%
30 - 39 years	15	26%	104	42%	4	36%	9	32%	132	39%
40 - 49 years	8	14%	24	10%	2	18%	4	14%	38	11%
50 - 59 years	0	0%	7	3%	0	0%	2	7%	9	3%
60 years and over	0	0%	0	0%	0	0%	0	0%	0	0%
Male Subtotal	57	17%	246	72%	11	3%	28	8%	342	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	0	0%	0	0%	0	0%	0	0%	0	0%
13 - 19 years	1	14%	1	9%	0	0%	0	0%	2	8%
20 - 24 years	2	29%	3	27%	0	0%	2	0%	7	28%
25 - 29 years	1	14%	3	27%	0	0%	3	0%	7	28%
30 - 39 years	2	29%	2	18%	0	0%	0	0%	4	16%
40 - 49 years	1	14%	2	18%	0	0%	1	0%	4	16%
50 - 59 years	0	0%	0	0%	0	0%	1	0%	1	4%
60 years and over	0	0%	0	0%	0	0%	0	0%	0	0%
Female Subtotal	7	28%	11	44%	0	0%	7	28%	25	100%

ALL	White		Black		Hispanic		Other or unknown		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	0	0%	3	1%	0	0%	0	0%	3	1%
13 - 19 years	3	5%	17	7%	0	0%	2	6%	22	6%
20 - 24 years	18	28%	53	21%	2	18%	9	26%	82	22%
25 - 29 years	17	27%	45	18%	3	27%	7	20%	72	20%
30 - 39 years	17	27%	106	41%	4	36%	9	26%	136	37%
40 - 49 years	9	14%	26	10%	2	18%	5	14%	42	11%
50 - 59 years	0	0%	7	3%	0	0%	3	9%	10	3%
60 years and over	0	0%	0	0%	0	0%	0	0%	0	0%
RACE ALL	64	17%	257	70%	11	3%	35	10%	367	100%

Table 22: Sex, risk, and age at HIV diagnosis among HIV-positive persons currently incarcerated in Michigan, 2014

MALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	12	60%	43	57%	29	45%	35	27%	6	16%	1	11%	0	0%	126	37%
Injection drug use	0	0%	0	0%	6	8%	4	6%	26	20%	6	16%	3	33%	0	0%	45	13%
MSM/IDU	0	0%	2	10%	6	8%	8	12%	15	11%	6	16%	2	22%	0	0%	39	11%
Blood products	0	0%	1	5%	1	1%	0	0%	0	0%	0	0%	0	0%	0	0%	2	1%
Heterosexual contact (HCFR)	0	0%	1	5%	8	11%	8	12%	14	11%	6	16%	0	0%	0	0%	37	11%
Perinatal	3	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	3	1%
Undetermined	0	0%	4	20%	11	15%	16	25%	42	32%	14	37%	3	33%	0	0%	90	26%
Male Subtotal	3	1%	20	6%	75	22%	65	19%	132	39%	38	11%	9	3%	0	0%	342	100%
FEMALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use	0	0%	1	50%	3	43%	3	43%	1	25%	2	50%	1	0%	0	0%	11	44%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	0	0%	1	50%	4	57%	3	43%	3	75%	2	50%	0	0%	0	0%	13	52%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	0	0%	0	0%	0	0%	1	14%	0	0%	0	0%	0	0%	0	0%	1	4%
Female Subtotal	0	0%	2	8%	7	28%	7	28%	4	16%	4	16%	1	4%	0	0%	25	100%
ALL	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	12	55%	43	52%	29	40%	35	26%	6	14%	1	10%	0	0%	126	34%
Injection drug use	0	0%	1	5%	9	11%	7	10%	27	20%	8	19%	4	40%	0	0%	56	15%
MSM/IDU	0	0%	2	9%	6	7%	8	11%	15	11%	6	14%	2	20%	0	0%	39	11%
Blood products	0	0%	1	5%	1	1%	0	0%	0	0%	0	0%	0	0%	0	0%	2	1%
Heterosexual contact (HC)	0	0%	2	9%	12	15%	11	15%	17	13%	8	19%	0	0%	0	0%	50	14%
HCFR (male)	0	0%	1	5%	8	10%	8	11%	14	10%	6	14%	0	0%	0	0%	37	10%
HCM (female)	0	0%	1	5%	4	5%	3	4%	3	2%	2	5%	0	0%	0	0%	13	4%
Perinatal	3	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	3	1%
Undetermined	0	0%	4	18%	11	13%	17	24%	42	31%	14	33%	3	30%	0	0%	91	25%
AGE ALL	3	1%	22	6%	82	22%	72	20%	136	37%	42	11%	10	3%	0	0%	367	100%

Table 23: Demographic information on Arab American HIV infection cases currently living in Michigan, 2014

REPORTED PREVALENCE								
	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent of stage 3 cases
SEX								
Male	32	74%	49	91%	81	84%	24	44%
Female	11	26%	5	9%	16	16%	1	2%
RISK*								
Male-male sex (MSM)	20	47%	25	46%	45	46%	11	20%
Injection drug use (IDU)	2	5%	1	2%	3	3%	0	0%
MSM/IDU	1	2%	3	6%	4	4%	2	4%
Blood products	0	0%	1	2%	1	1%	--	--
Heterosexual contact (HC)	7	16%	11	20%	18	19%	2	4%
HCFR (male)	1	2%	6	11%	7	7%	1	2%
HCM (female)	6	14%	5	9%	11	11%	1	2%
Perinatal	1	2%	0	0%	1	1%	--	--
Undetermined	12	28%	13	24%	25	26%	10	19%
AGE AT HIV DIAGNOSIS								
0 - 12 years	1	2%	0	0%	1	1%	--	--
13 - 19 years	3	7%	1	2%	4	4%	0	0%
20 - 24 years	4	9%	7	13%	11	11%	0	0%
25 - 29 years	16	37%	8	15%	24	25%	1	2%
30 - 39 years	12	28%	18	33%	30	31%	10	19%
40 - 49 years	5	12%	14	26%	19	20%	9	17%
50 - 59 years	1	2%	4	7%	5	5%	3	6%
60 and over	0	0%	2	4%	2	2%	2	4%
Unspecified	1	2%	0	0%	1	1%	--	--
AREA OF CURRENT RESIDENCE[†]								
Detroit Metro Area	40	93%	50	93%	90	93%	24	44%
Out-State	3	7%	3	6%	6	6%	1	2%
In Prison	0	0%	1	2%	1	1%	0	0%
TOTAL	43	100%	54	100%	97	100%	25	46%

*See page vi of the Forward for risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

[†] The Detroit Metro Area consists of Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State Area.

Table 24: Sex, risk, and age at HIV diagnosis among Arab American HIV infection cases currently living in Michigan, 2014

MALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1	25%	21	84%	11	39%	12	50%	45	56%
Injection drug use (IDU)	0	0%	0	0%	1	4%	0	0%	1	1%
MSM/IDU	0	0%	0	0%	3	11%	1	4%	4	5%
Blood products	1	25%	0	0%	0	0%	0	0%	1	1%
Heterosexual contact (HCFR)	0	0%	0	0%	3	11%	4	17%	7	9%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	2	50%	4	16%	10	36%	7	29%	23	28%
Male Subtotal	4	5%	25	31%	28	35%	24	30%	81	100%
FEMALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	0	0%	1	10%	1	50%	0	0%	2	13%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	0	0%	9	90%	0	0%	2	100%	11	73%
Perinatal	1	100%	0	0%	0	0%	0	0%	1	7%
Undetermined	0	0%	0	0%	0	0%	0	0%	0	0%
Female Subtotal*	1	7%	10	67%	2	13%	2	13%	15	100%
ALL	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1	20%	21	60%	11	37%	12	46%	45	47%
Injection drug use (IDU)	0	0%	1	3%	2	7%	0	0%	3	3%
MSM/IDU	0	0%	0	0%	3	10%	1	4%	4	4%
Blood products	1	20%	0	0%	0	0%	0	0%	1	1%
Heterosexual contact (HC)	0	0%	9	26%	3	10%	6	23%	18	19%
<i>HCFR (male)</i>	0	0%	0	0%	3	10%	4	15%	7	7%
<i>HCM (female)</i>	0	0%	9	26%	0	0%	2	8%	11	11%
Perinatal	1	20%	0	0%	0	0%	0	0%	1	1%
Undetermined	2	40%	4	11%	10	33%	7	27%	23	24%
AGE ALL *	5	5%	35	36%	30	31%	26	27%	96	100%

*Not included in this table are the following cases with unknown age at diagnosis: one female with unknown risk.

Table 25: Demographic information on Asian, Native Hawaiian, and Other Pacific Islander HIV infection cases currently living in Michigan, 2014

REPORTED PREVALENCE								
	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent of stage 3 cases
SEX								
Male	39	61%	44	79%	83	69%	25	45%
Female	25	39%	12	21%	37	31%	4	7%
RISK*								
Male-male sex (MSM)	20	31%	18	32%	38	32%	14	25%
Injection drug use (IDU)	5	8%	3	5%	8	7%	1	2%
MSM/IDU	0	0%	1	2%	1	1%	0	0%
Heterosexual contact (HC)	12	19%	12	21%	24	20%	4	7%
HCFR (male)	0	0%	3	5%	3	3%	1	2%
HCM (female)	12	19%	9	16%	21	18%	3	5%
Perinatal	4	6%	0	0%	4	3%	--	--
Undetermined	23	36%	22	39%	45	38%	10	18%
AGE AT HIV DIAGNOSIS								
0 - 12 years	4	6%	0	0%	4	3%	--	--
13 - 19 years	2	3%	2	4%	4	3%	0	0%
20 - 24 years	8	13%	4	7%	12	10%	2	4%
25 - 29 years	14	22%	19	34%	33	28%	5	9%
30 - 39 years	26	41%	16	29%	42	35%	14	25%
40 - 49 years	10	16%	13	23%	23	19%	7	13%
50 - 59 years	0	0%	2	4%	2	2%	1	2%
60 and over	0	0%	0	0%	0	0%	--	--
Unspecified	0	0%	0	0%	0	0%	--	--
AREA OF CURRENT RESIDENCE[†]								
Detroit Metro Area	26	41%	29	52%	55	46%	18	32%
Out-State	38	59%	26	46%	64	53%	10	18%
Prison or unknown	0	0%	1	2%	1	1%	1	2%
TOTAL	64	100%	56	100%	120	100%	29	52%

*See page vi of the Forward for risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

[†] The Detroit Metro Area consists of Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State Area.

Table 26: Sex, Risk, and Age at HIV Diagnosis Among Asian, Native Hawaiian and Pacific Islander HIV Infection Cases Currently Living in Michigan, 2014

MALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	0	0%	12	40%	14	48%	12	60%	38	46%
Injection drug use (IDU)	0	0%	4	13%	3	10%	0	0%	7	8%
MSM/IDU	0	0%	1	3%	0	0%	0	0%	1	1%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCFR)	0	0%	2	7%	1	3%	0	0%	3	4%
Perinatal	2	50%	0	0%	0	0%	0	0%	2	2%
Undetermined	2	50%	11	37%	11	38%	8	40%	32	39%
Male Subtotal	4	5%	30	36%	29	35%	20	24%	83	100%
FEMALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	0	0%	1	7%	0	0%	0	0%	1	3%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	1	25%	10	67%	6	46%	4	80%	21	57%
Perinatal	2	50%	0	0%	0	0%	0	0%	2	5%
Undetermined	1	25%	4	27%	7	54%	1	20%	13	35%
Female Subtotal	4	11%	15	41%	13	35%	5	14%	37	100%
ALL	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	0	0%	12	27%	14	33%	12	48%	38	32%
Injection drug use (IDU)	0	0%	5	11%	3	7%	0	0%	8	7%
MSM/IDU	0	0%	1	2%	0	0%	0	0%	1	1%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HC)	1	13%	12	27%	7	17%	4	16%	24	20%
HCFR (male)	0	0%	2	4%	1	2%	0	0%	3	3%
HCM (female)	1	13%	10	22%	6	14%	4	16%	21	18%
Perinatal	4	50%	0	0%	0	0%	0	0%	4	3%
Undetermined	3	38%	15	33%	18	43%	9	36%	45	38%
AGE ALL	8	7%	45	38%	42	35%	25	21%	120	100%

Table 27: Demographic information on American Indian and Alaska Native HIV infection cases currently living in Michigan, 2014

REPORTED PREVALENCE								
	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent of stage 3 cases
SEX								
Male	19	76%	13	72%	32	74%	3	17%
Female	6	24%	5	28%	11	26%	2	11%
RISK*								
Male-male sex (MSM)	11	44%	7	39%	18	42%	2	11%
Injection drug use (IDU)	0	0%	1	6%	1	2%	0	0%
MSM/IDU	3	12%	3	17%	6	14%	0	0%
Blood products	0	0%	0	0%	0	0%	--	--
Heterosexual contact (HC)	6	24%	4	22%	10	23%	1	6%
HCFR (male)	1	4%	1	6%	2	5%	0	0%
HCM (female)	5	20%	3	17%	8	19%	1	6%
Perinatal	1	4%	0	0%	1	2%	--	--
Undetermined	4	16%	3	17%	7	16%	1	6%
AGE AT HIV DIAGNOSIS								
0 - 12 years	1	4%	0	0%	1	2%	--	--
13 - 19 years	0	0%	0	0%	0	0%	--	--
20 - 24 years	9	36%	3	17%	12	28%	1	6%
25 - 29 years	0	0%	4	22%	4	9%	0	0%
30 - 39 years	10	40%	9	50%	19	44%	3	17%
40 - 49 years	4	16%	1	6%	5	12%	0	0%
50 - 59 years	0	0%	0	0%	0	0%	--	--
60 and over	1	4%	1	6%	2	5%	1	6%
Unspecified	0	0%	0	0%	0	0%	--	--
AREA OF CURRENT RESIDENCE[†]								
Detroit Metro Area	13	52%	4	22%	17	40%	1	6%
Out-State	12	48%	13	72%	25	58%	4	22%
Prison	0	0%	1	6%	1	2%	0	0%
TOTAL	25	100%	18	100%	43	100%	5	28%

*See page vi of the Forward for risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

[†] The Detroit Metro Area consists of Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne Counties. The remaining counties comprise the Out-State Area.

Table 28: Sex, risk, and age at HIV diagnosis among American Indian and Alaska Native HIV infection cases currently living in Michigan, 2014

MALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	0	0%	7	54%	9	60%	2	50%	18	56%
Injection drug use (IDU)	0	0%	0	0%	0	0%	0	0%	0	0%
MSM/IDU	0	0%	4	31%	2	13%	0	0%	6	19%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCFR)	0	0%	1	8%	0	0%	1	25%	2	6%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	0	0%	1	8%	4	27%	1	25%	6	19%
Male Subtotal	0	0%	13	41%	15	47%	4	13%	32	100%
FEMALE	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	0	0%	0	0%	1	25%	0	0%	1	9%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	0	0%	3	100%	3	75%	2	67%	8	73%
Perinatal	1	100%	0	0%	0	0%	0	0%	1	9%
Undetermined	0	0%	0	0%	0	0%	1	33%	1	9%
Female Subtotal*	1	9%	3	27%	4	36%	3	27%	11	100%
ALL	0 - 19 years		20 - 29 years		30 - 39 years		40 years and older		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	0	0%	7	44%	9	47%	2	29%	18	42%
Injection drug use (IDU)	0	0%	0	0%	1	5%	0	0%	1	2%
MSM/IDU	0	0%	4	25%	2	11%	0	0%	6	14%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HC)	0	0%	4	25%	3	16%	3	43%	10	23%
HCFR (male)	0	0%	1	6%	0	0%	1	14%	2	5%
HCM (female)	0	0%	3	19%	3	16%	2	29%	8	19%
Perinatal	1	100%	0	0%	0	0%	0	0%	1	2%
Undetermined	0	0%	0	0%	0	0%	0	0%	7	16%
AGE ALL	1	2%	16	37%	19	44%	7	16%	43	100%

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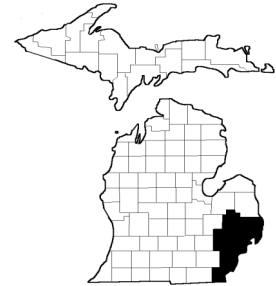
2014 Profile of HIV in the Detroit Metro Area

Summary of the HIV Epidemic in the Detroit Metro Area

Data from enhanced HIV/AIDS Reporting System (eHARS)

How many cases?

The Michigan Department of Community Health (MDCH) estimates that there are 13,470 persons currently living with HIV in the Detroit Metro Area (DMA), of whom 10,545 were reported as of January 1, 2014 (table 1, page 169). The DMA is the Detroit Metropolitan Statistical Area as defined by the US Census, composed of Lapeer, Macomb, Monroe, Oakland, St. Clair, and Wayne counties (including the City of Detroit). The number and rate of new HIV diagnoses remained stable in the DMA between 2008 and 2012, with an average of 554 new cases each year and an average rate of 13 cases per 100,000 population (See pages v-vi for information on *2014 Annual Review of HIV Trends in Michigan*). Despite a stable number of new diagnoses each year, there are more new diagnoses of HIV infection than deaths. As a result, the reported number of persons living with HIV infection in the DMA is increasing.

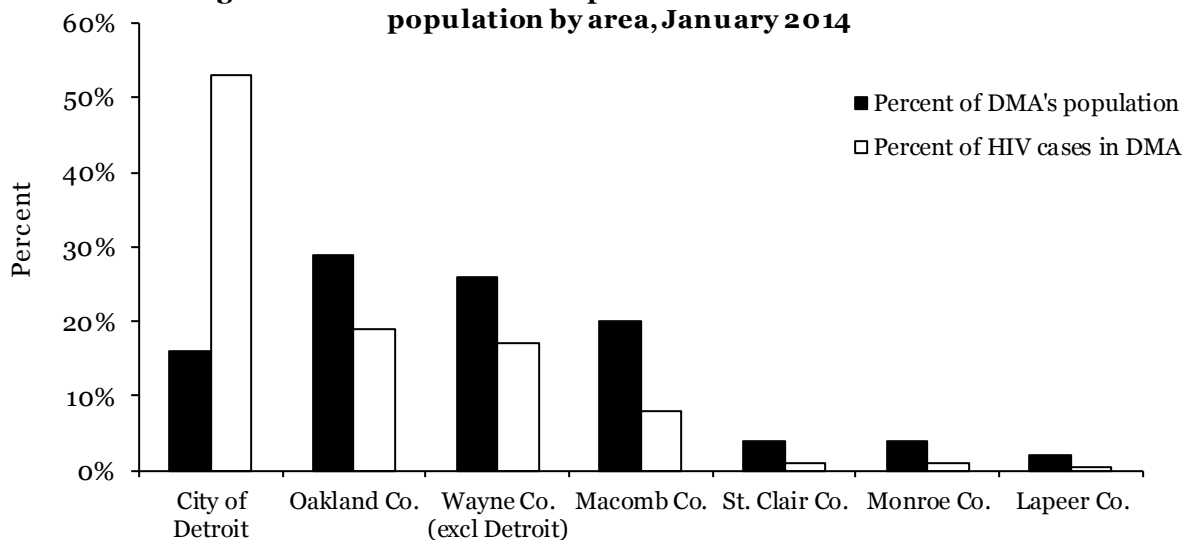


How are the cases geographically distributed?

HIV infections are distributed disproportionately, both in Michigan and in the DMA. Sixty-three percent of those living with HIV reside in the DMA (10,545 of the 16,750 cases currently living in Michigan), but the DMA has only 43 percent of the general population (table 8 of Statewide chapter, page 112). Figure 1 shows the distribution of reported cases and population by local health department (LHD) within the DMA. The City of Detroit experienced a population decline of 21 percent between the 2000 and 2010 Censuses and now accounts for only 16 percent of the DMA's population. However, 53 percent of all DMA HIV cases reside in Detroit. All other LHDs in the DMA have a greater proportion of the population than they do cases.

All LHDs in Michigan are classified as high or low prevalence based on the HIV prevalence rate (see page 18 of the Statewide chapter for further explanation). The City of Detroit and Macomb, Oakland, and Wayne counties are considered high prevalence and hold 98 percent of the DMA's HIV cases. Lapeer, Monroe, and St. Clair counties are considered low prevalence.

Figure 1: Detroit Metro Area prevalent HIV infection cases and population by area, January 2014



2014 Profile of HIV in the Detroit Metro Area

Recommendations: Ranking of Behavioral Groups

Data from enhanced HIV/AIDS Reporting System (eHARS)

To assist in prioritizing prevention activities, the MDCH HIV, Body Art, Tuberculosis, and Viral Hepatitis Section ranks the three behavioral groups most at risk for HIV infection in the Detroit Metro Area (DMA). The guiding question used in this process is, “In which populations can strategies prevent the most infections from occurring?” Effectively reducing transmission in populations where most of the HIV transmission is taking place will have the greatest impact on the overall epidemic. The percentage of cases for each behavioral group and trends over time were used to determine the ranked order of the following three behavioral groups: MSM, heterosexuals, and IDU.

- **Men who have sex with men (MSM)*:** MSM make up 55 percent of all reported cases of HIV currently living in the DMA, including MSM/IDU (5,772 out of 10,545 cases) (table 1, page 169). The MSM behavioral group continues to be the most affected behavioral group in this area. Between 2008 and 2012, there was an average of 312 new cases among MSM each year. The number of new MSM cases remained stable during this time (Trends).
- **Heterosexuals:** Heterosexual cases constitute 18 percent of the total number of reported cases (1,906 out of 10,545 cases) currently living in the DMA (table 1). This behavioral group is comprised of males who had sex with females known to be at risk for HIV (heterosexual contact with female with risk, HCFR) and females who had sex with males, regardless of what is known about the male partners' risk behaviors (heterosexual contact with male, HCM). HCFR is more completely defined as males who had sex with females known to be IDU, recipients of HIV-infected blood products, or HIV-positive persons. See the glossary in appendix A, page 233, for further description of the heterosexual risk transmission category. Seventy-nine percent of all heterosexual cases in the DMA are among females. The number of new HIV diagnoses among persons with heterosexual risk remained stable between 2008 and 2012. This is the first trend analysis of the last five years not to show a decrease in new diagnoses among persons with heterosexual risk in the DMA (Trends).
- **Injection drug users (IDU)*:** Of all reported cases of HIV currently living in the DMA, 12 percent are IDU, including MSM/IDU (1,318 out of 10,545 cases) (table 1). The number of new HIV diagnoses among IDU did not decrease between 2008 and 2012 for the first time in nine consecutive annual trend analyses. New diagnoses among IDU remained stable during this time (Trends).

*Both MSM and IDU numbers and percentages include persons with a dual risk of MSM/IDU.

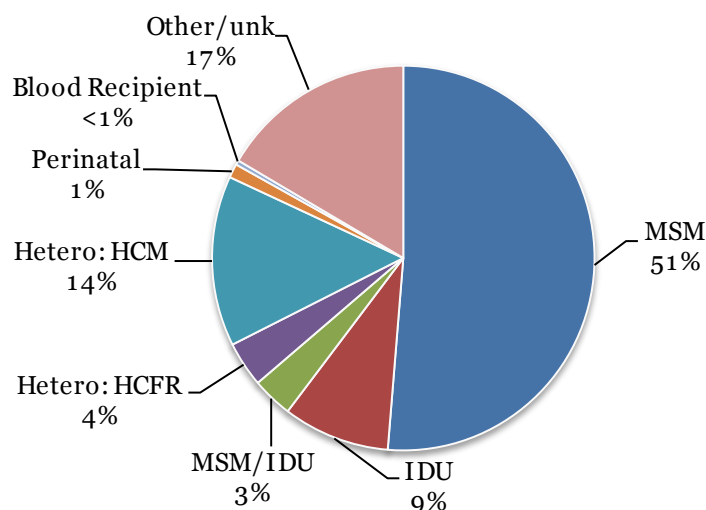
2014 Profile of HIV in the Detroit Metro Area

Distribution of Living HIV Cases by Risk Transmission Category

Data from enhanced HIV/AIDS Reporting System (eHARS)

Although case reporting includes ascertainment of multiple behaviors associated with HIV transmission, current surveillance methods cannot determine the specific route of HIV transmission in persons who have engaged in more than one risk behavior. For the purposes of analysis and interpretation, in the 1980s the Centers for Disease Control and Prevention created a risk hierarchy to classify people into risk transmission categories. The hierarchy is intended to account for the efficiency of HIV transmission associated with each behavior, along with the probability of exposure to a HIV-positive person within the population. The adult/adolescent categories, in order, are as follows: (1) men who have sex with men (MSM); (2) injection drug users (IDU); (3) men who have sex with men and inject drugs (MSM/IDU); (4) hemophilia/coagulation disorders; (5) heterosexual contact (HC); (6) receipt of HIV-infected blood or blood components; and (7) no identified risk (NIR). Figure 2 shows the distribution of risk for all persons currently living with HIV in the DMA as of January 2014 (data also found on tables 1 and 2, pages 169-170).

Figure 2: HIV infection cases currently living in the Detroit Metro Area by risk transmission category, January 2014 (N = 10,545)



- Over half (55 percent) of persons currently living with HIV in the DMA are men who have sex with men (MSM), including three percent who also inject drugs (MSM/IDU).
- Eighteen percent have a risk of heterosexual sex, 14 percent of whom are females who had sex with males (HCM) and four percent of whom are males who had sex with females of known risk (HCFR).
- Twelve percent are injection drug users (IDU), including three percent who are also MSM (MSM/IDU).
- Two percent are other known risk, including perinatal transmission and receipt of HIV-infected blood products.
- Seventeen percent have unknown risk, which includes males who had sex with females of unknown risk.

2014 Profile of HIV in the Detroit Metro Area

Distribution of Living HIV Cases by Exposure Category

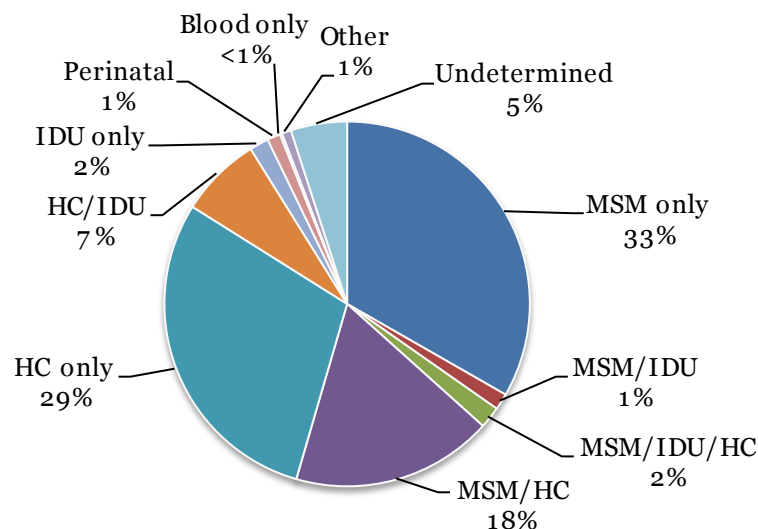
Data from enhanced HIV/AIDS Reporting System (eHARS)

When the risk transmission categories were created, the hierarchy was based on what was known at the beginning of the epidemic about how HIV was transmitted, when almost all cases were among males and there was little documented heterosexual transmission. Since then, the hierarchy has not changed, even though our understanding of the most efficient HIV transmission routes has. Additionally, concerns have been raised that use of hierarchical categories masks the identification of multiple risks that a person may have. For this reason, Michigan also presents exposure categories, which convey all known modes of HIV exposure. Like the traditional risk transmission categories, the exposure categories are mutually exclusive, meaning that each case is included in only one category. Exposure categories, however, allow readers to see all the reported ways in which a person may have been exposed to HIV without stating definitively how the individual was infected. Please see the glossary in appendix A (page 233) for more detailed definitions of exposure categories.

It is important to note that, unlike in the risk transmission categories, males are counted in the heterosexual contact (HC) exposure category regardless of what is known about their female partners' risk behaviors. This results in an increased proportion of persons in the heterosexual category.

Figure 3 shows the distribution of exposures among HIV-positive persons currently living in the Detroit Metro Area (DMA) as of January 2014 (data also found in table 2, page 170).

Figure 3: HIV infection cases currently living in the Detroit Metro Area by exposure category, January 2014 (N = 10,545)



- While over half of all prevalent HIV cases are classified as men who have sex with men (MSM) in the risk transmission hierarchy, over 20 percent reported additional exposures. Twenty percent ever reported sex with a female (MSM/HC and MSM/HC/IDU).
- Almost all injection drug users (IDU) reported additional risk behaviors, including seven percent reporting heterosexual contact (HC/IDU) and two percent reporting both heterosexual contact and male-male sex (MSM/IDU/HC).
- 'Other' includes the following combinations of risks: HC/Blood, HC/IDU/Blood, MSM/Blood, MSM/HC/Blood, MSM/IDU/HC/Blood, and MSM/IDU/Blood.

2014 Profile of HIV in the Detroit Metro Area

Distribution of Living HIV Cases by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figures 4 and 5 show the impact of the HIV epidemic on six race/sex groups in the DMA. Data can also be found in table 1, page 169.

Figure 4: Estimated prevalence of persons living with HIV in the Detroit Metro Area by race and sex, January 2014

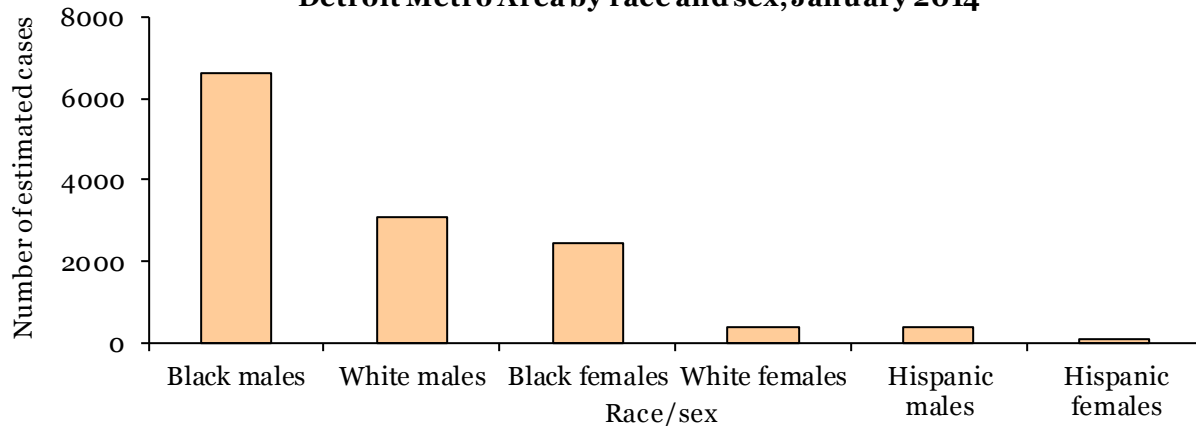
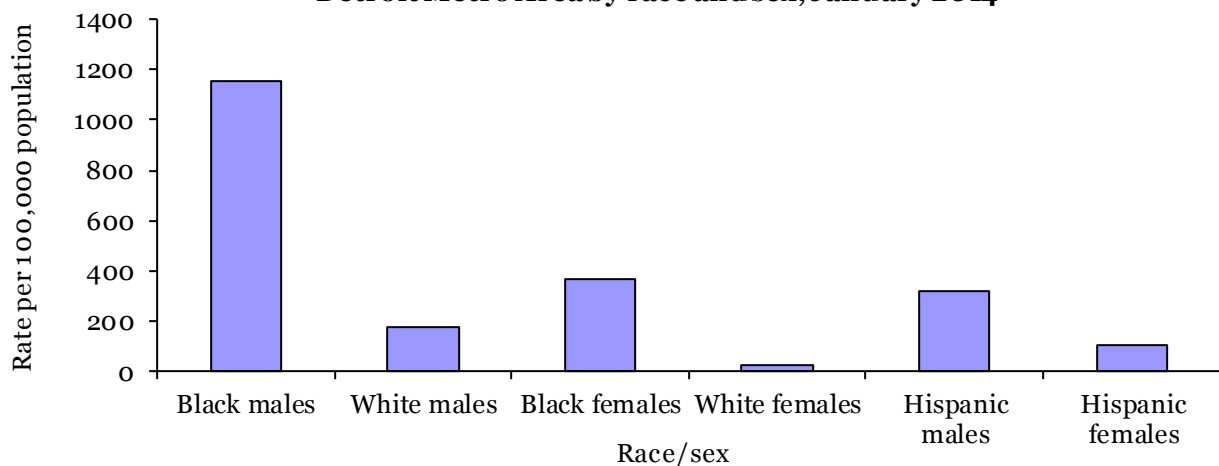


Figure 5: Reported prevalence rate of persons living with HIV in the Detroit Metro Area by race and sex, January 2014



- Black males have both the highest rate per 100,000 (1,155) and the highest estimated number (6,610) of HIV cases. This high rate means the impact of the epidemic is greatest on this demographic group.
- Black females have the second highest rate (368) and the third highest estimated number (2,460) of cases of HIV.
- Hispanic males have the third highest rate (320) and the fifth highest estimated number (360) of cases. This indicates the impact of the epidemic is high on a relatively small demographic group.
- White males have the fourth highest rate (172) and the second highest estimated number (3,090) of cases.
- Hispanic females have the fifth highest rate (102) and the lowest estimated number (110) of HIV cases.
- White females have the lowest rate (21) and the fourth highest estimated number (390) of HIV cases.

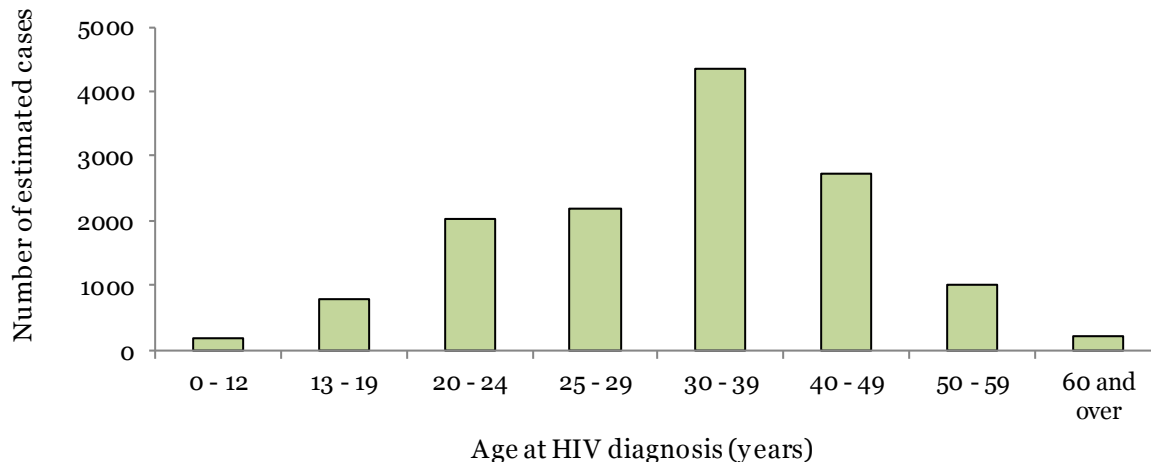
2014 Profile of HIV in the Detroit Metro Area

Distribution of Living HIV Cases by Age at HIV Diagnosis

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 6 shows the breakdown of prevalent cases in the Detroit Metro Area (DMA) by age at HIV diagnosis. Data also found on table 1, page 169.

Figure 6: Estimated prevalence of persons living with HIV in the Detroit Metro Area by age at diagnosis, January 2014



- The majority of all prevalent cases (an estimated 4,350) were 30-39 years old at the time of diagnosis.
- The next highest number of estimated cases is among persons 40-49 years at diagnosis, followed closely by 25-29 year olds (2,720 vs. 2,200, respectively).
- The smallest number of estimated cases is among individuals diagnosed between 0 and 12 years, followed by individuals diagnosed at the age of 60 years and older.
- There were an estimated 10 cases with unknown age at diagnosis not included in this figure.

2014 Profile of HIV in the Detroit Metro Area

Trends in HIV Data

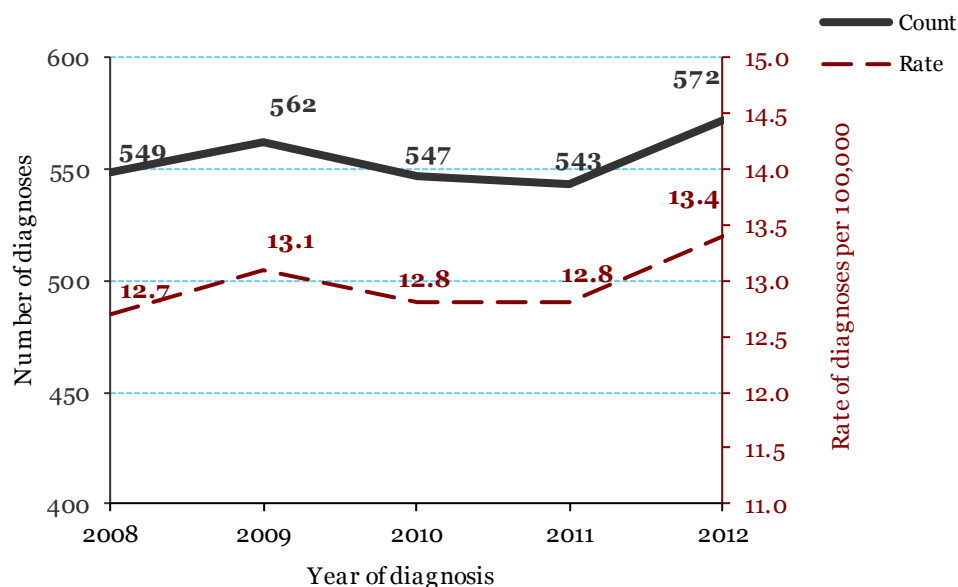
Data from enhanced HIV/AIDS Reporting System (eHARS)

To evaluate recent trends in new HIV diagnoses in the DMA, we estimated the number of persons newly diagnosed with HIV infection each year by adjusting the number of reported cases diagnosed between 2008 and 2012. This adjustment was applied to account for cases that may not have been reported to the health department by January 1, 2014. The adjustments were calculated by weighting the data. Please see the Forward (pages v-vi) for an in-depth description of the methods used to evaluate trends. The full Trends documents can be found by visiting the following link: http://www.michigan.gov/mdch/0,4612,7-132-2940_2955_2982_46000_46003-36304--,00.html.

New diagnoses of HIV, 2008-2012:

The number and rate of new HIV diagnoses remained stable in the DMA between 2008 and 2012, with an average of 554 new cases each year (13 cases per 100,000 population) (figure 7). This surpasses the statewide rate of 8.2 cases per 100,000.

Figure 7: Adjusted number and rate of new HIV diagnoses in the Detroit Metro Area, 2008-2012



New diagnoses by risk, 2008-2012:

Between 2008 and 2012, the number of newly diagnosed persons remained stable among persons in every risk group (figure 8). For the first time in the last five annual trend analyses, there was no decrease seen in new diagnoses among persons with heterosexual risk. This is also the first time in nine reports showing no decreases among injection drug users (IDU). The decrease in new diagnoses among IDU has been seen for the past eight consecutive annual trend reports. Data from Michigan's HIV Behavioral Surveillance suggest reductions among IDU may be partly attributable to the success of harm reduction programs. The "other known" risk category includes perinatal and blood product transmission. The numbers have been low in this group for many years due to programmatic successes in preventing perinatal and blood-borne transmissions.

Newly diagnosed persons with no identified risk (NIR) includes males who reported sex with females of unknown risk/HIV status as their only risk and males and females for whom no risk has yet been

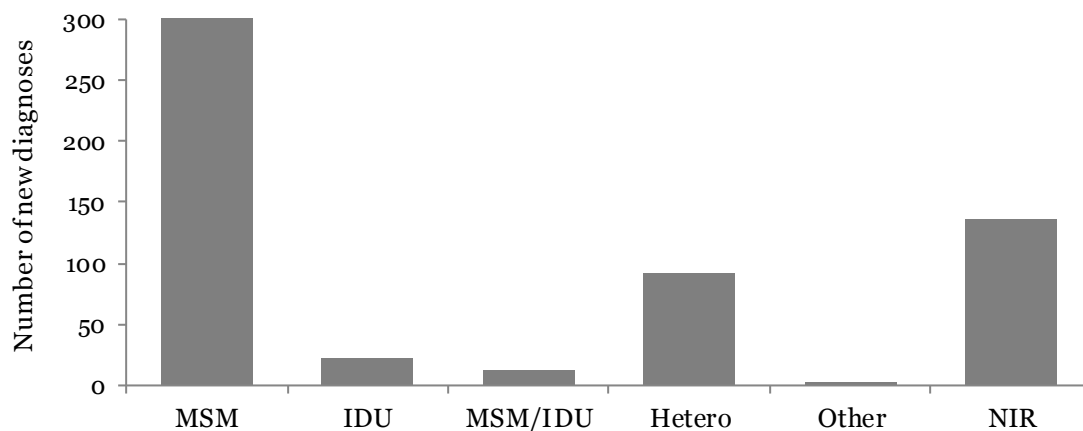
2014 Profile of HIV in the Detroit Metro Area

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

reported. This group accounts for about 22 percent of new diagnoses each year (Trends) but only 17 percent of all persons currently living with HIV in the DMA (regardless of year of diagnosis) (table 1, page 169).

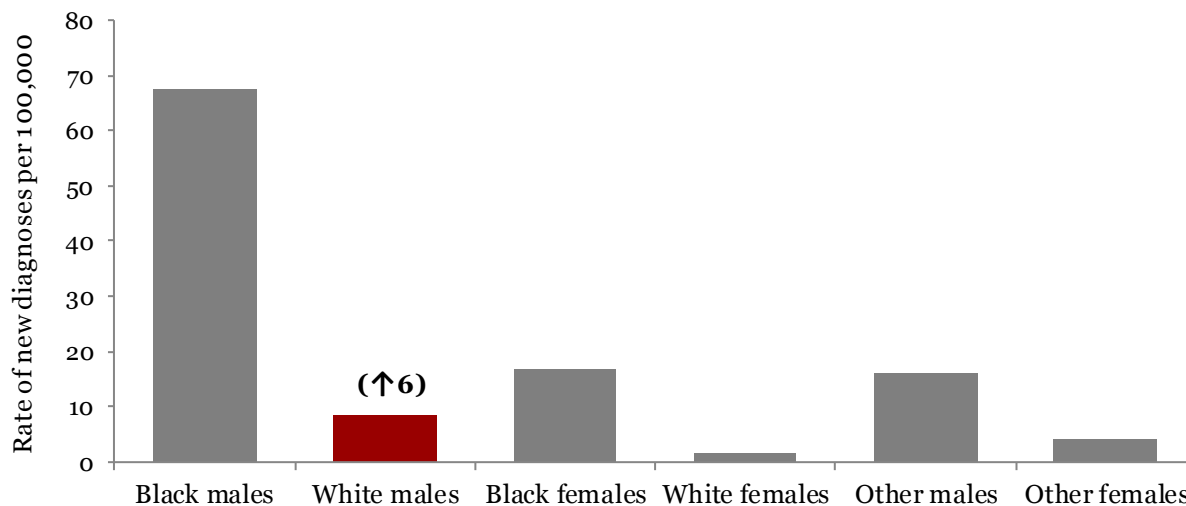
Figure 8: Adjusted number of new HIV diagnoses in the Detroit Metro Area in 2012, by risk



New diagnoses by race and sex, 2008-2012:

The rate of new diagnoses increased among white males (average 6 percent per year) between 2008 and 2012 (figure 9). The rate also increased among all white persons by an average six percent per year, driven by the increase among white males. There were no significant changes in new diagnoses among any other race/sex groups between 2008 and 2012 (Trends).

Figure 9: Adjusted rate of new HIV diagnoses in the Detroit Metro Area in 2012 and trends between 2008-2012, by race/sex



2014 Profile of HIV in the Detroit Metro Area

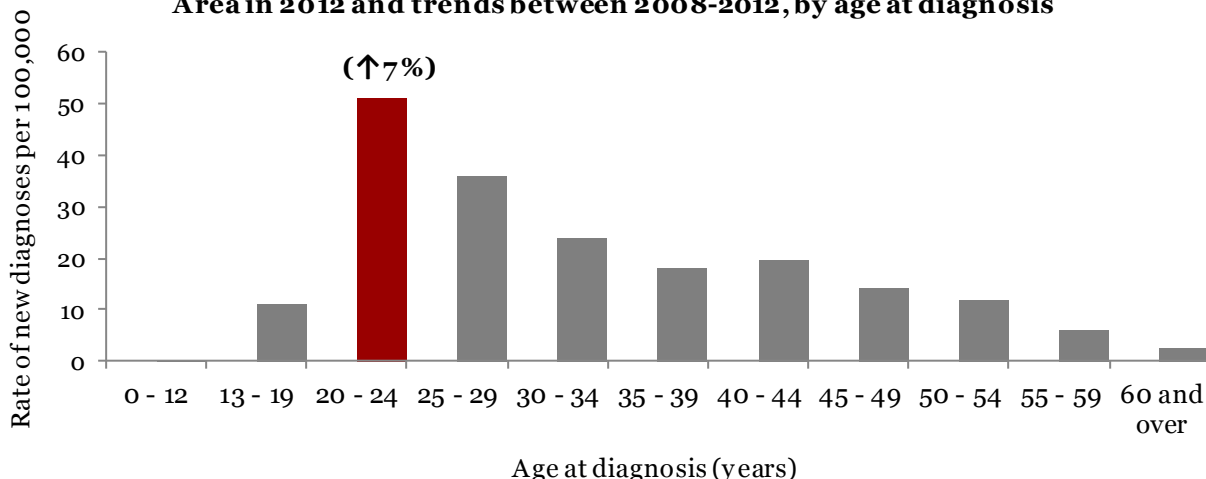
Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

New diagnoses by age at HIV diagnosis, 2008-2012:

The rate of new HIV diagnoses increased significantly among persons 20-24 years of age (an average 7 percent per year) (figure 10). For the third time in eight trend reports, the rate did not increase among those 13-19 years of age at diagnosis. This is the fourth consecutive report, however, showing increases among 20-24. The average rate among 20-24 year olds is now 44.6 cases per 100,000 population, almost twice that among 30-34 year olds. The number of new diagnoses in all other age groups remained stable between 2008 and 2012.

Figure 10: Adjusted rate of new HIV diagnoses in the Detroit Metro Area in 2012 and trends between 2008-2012, by age at diagnosis



New diagnoses, deaths and prevalence of HIV by year:

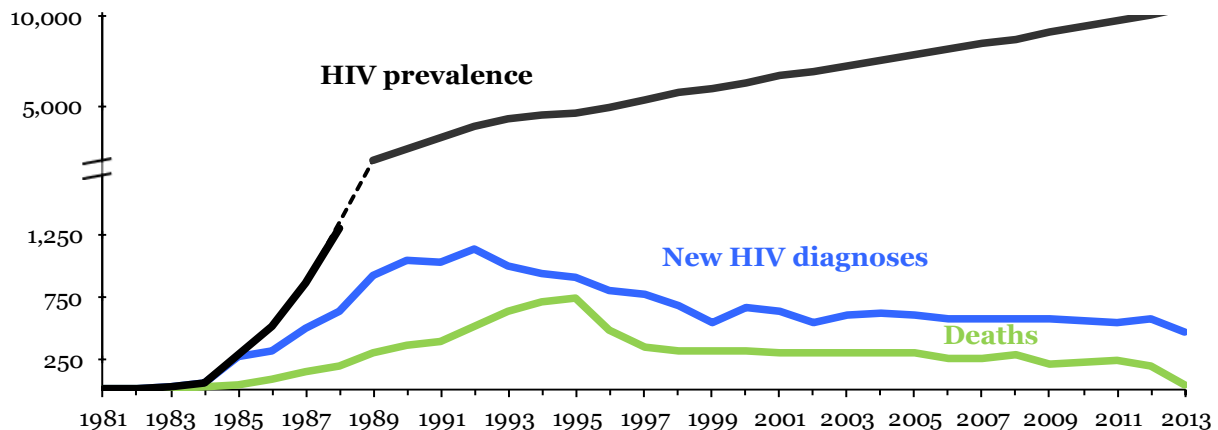
The unadjusted number of new HIV diagnoses, number of deaths among HIV-positive persons, and HIV prevalence are presented in figure 11. The trend among new HIV diagnoses reflects reported cases. These data were not adjusted for reporting delay as they were in figures 7-10. Consequently, the decreases in new diagnoses seen in the most recent years will likely level out as more cases diagnosed during those years are reported. Although the number of deaths among HIV-positive persons is decreasing, the number of new HIV diagnoses is stable. As a result, HIV prevalence (the number of people currently living with HIV in Michigan) continues to rise.

2014 Profile of HIV in the Detroit Metro Area

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

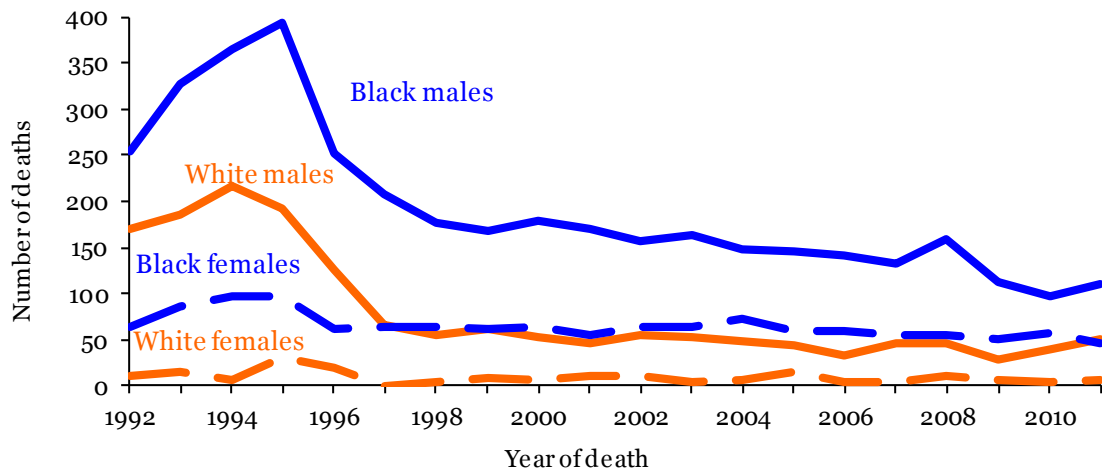
Figure 11: New diagnoses, deaths, and prevalence of HIV in the Detroit Metro Area by year, January 2014



Deaths among HIV-positive persons by race and sex:

Figure 11 shows the number of HIV-positive Detroit Metro Area (DMA) residents reported as deceased by a local health department, the department of vital records (via a data match, death transcript, or death certificate), the National Death Index, or an alternate source. The number of deaths increased in all race/sex groups from the beginning of the epidemic through approximately 1994-1995. The number of deaths decreased markedly between 1995 and 1998 and were relatively stable until 2001. It should be noted that the percent decrease in deaths among white males (76 percent) between 1995 and 2001 was more pronounced than the percent decrease among black males (57 percent), and the percent decrease among white females (68 percent) was larger than the percent decrease among black females (43 percent) (figure 13). Between 2001 and 2011, the number of deaths among all groups fell once again, with the exception of white males which saw a nine percent increase. The number of deaths did not change as appreciably in black males (35 percent), black females (18 percent), and white females (30 percent; data not shown in tables).

Figure 12: Detroit Metro Area HIV deaths by race/sex, January 2014



2014 Profile of HIV in the Detroit Metro Area

Ranked Behavioral Group: MSM

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Men who have sex with men (MSM) are the number one ranked behavioral group in the DMA for HIV infection. MSM remain the single largest behavioral group affected by the epidemic and account for over half (55 percent) of all reported HIV-positive persons, including MSM/IDU. MDCH estimates that there are approximately 7,370 MSM living with HIV infection in the DMA. This includes an estimated 460 HIV-positive males whose risk is a combination of having sex with other males and injecting drugs (table 1, page 169).

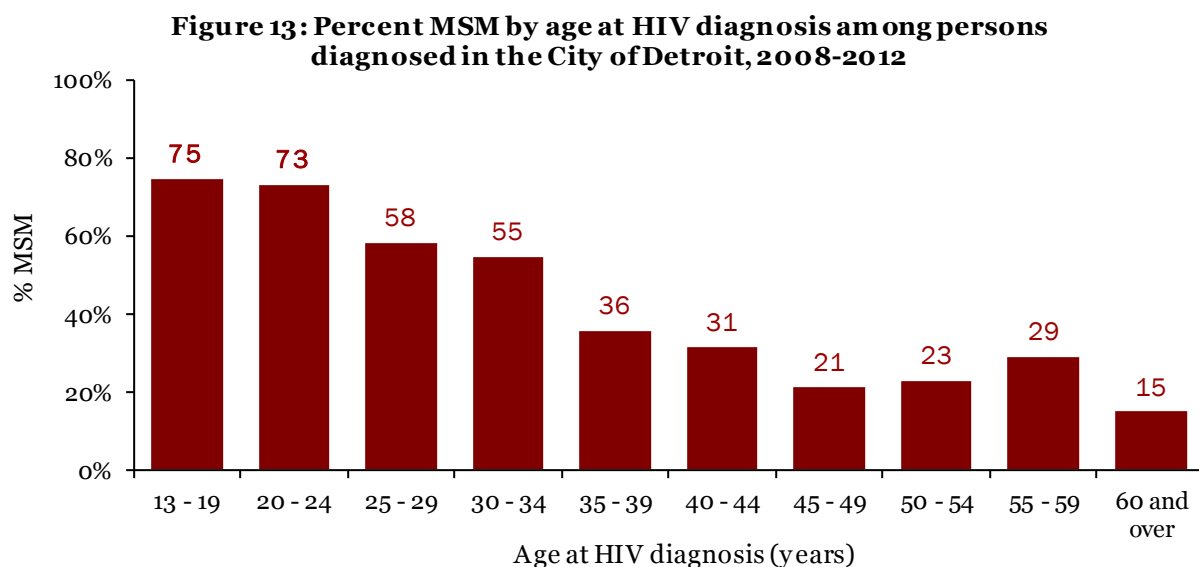
Race/ethnicity:

MSM account for most HIV infections among males in the DMA for all racial and ethnic groups. When considering reported cases for MSM and MSM/IDU of all races (5,772 reported cases), white males comprise 34 percent of males in this combined category (1,988 cases); black males account for well over half (59 percent, 3,410 cases); and Hispanic males account for three percent (180 cases; table 3, page 171).

Age at HIV diagnosis:

Among those reporting male-male sex (including MSM/IDU), the highest proportion of all living HIV infection cases were 30-39 years old at diagnosis (32 percent). MSM is the predominant mode of transmission for males ages 13 and up; male-male sex accounts for 85 percent and 82 percent of infections among males ages 13-19 years and 20-29 years at diagnosis, respectively (table 5, page 173).

Among newly diagnosed cases in the City of Detroit, younger age groups are more likely to be MSM than those at older ages (Trends). Figure 13 shows that 75 percent of newly diagnosed 13-19 year olds and 73 percent of 20-24 year olds are MSM. The proportion who are MSM decreases as age at diagnosis increases, with MSM representing less than half of new diagnoses among persons 30 years and older. Additionally, 70 percent of newly diagnosed teens (13-19 year olds) are black MSM, compared to 41 percent of persons who are 20 years and older (Trends).



2014 Profile of HIV in the Detroit Metro Area

Ranked Behavioral Group: MSM

Data from enhanced HIV/AIDS Reporting System (eHARS)

Late diagnoses:

Of the 10,545 persons living with HIV infection in the DMA, 54 percent (5,721 cases) have progressed to stage 3 HIV infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). MSM and MSM/IDU make up 55 percent (3,122 cases) of persons living with stage 3 infection, of whom 42 percent (1,298 cases) had late HIV diagnoses (table 1, page 169).

Geographic distribution:

About two thirds (62 percent) of HIV-positive MSM statewide reside in the DMA, which is similar to the proportion of all cases that reside in the DMA. Within high prevalence counties (City of Detroit, Macomb, Oakland, and Wayne), MSM comprise 55 percent of persons living with HIV infection, while in the lower prevalence counties (Lapeer, Monroe, and St. Clair), 63 percent of reported persons living with HIV infection are MSM (data not shown in tables; see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification). The majority (97 percent) of HIV-positive MSM and MSM/IDU in the DMA live in the city of Detroit.

Race/ethnicity:

Most MSM cases of HIV infection in the DMA are among black men (59 percent). Almost half of HIV infection cases in the DMA among black persons are MSM (48 percent). Thirty-four percent of MSM cases are among white men, three percent are among Hispanic men, and the remaining three percent are among men of other race (table 3, page 171).

Trends and conclusions:

The estimated number of new HIV infections among men who have sex with men (MSM) in the Detroit Metro Area remained stable from 2008 to 2012. The estimated number of new HIV infections among MSM who were also IDU (MSM/IDU) also remained stable. MSM and MSM/IDU together constituted 56 percent of all new diagnoses in the DMA in 2012 (Trends). Additional information on MSM from National HIV Behavioral Surveillance (NHBS) focuses largely on the Detroit Metro Area and can be found on pages 37-39 in the Statewide chapter of this document.

2014 Profile of HIV in the Detroit Metro Area

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Heterosexual risk is the second highest ranked behavioral group in the Detroit Metro Area (DMA). Persons with heterosexual risk account for 18 percent of reported HIV infection cases. MDCH estimates that 2,430 persons living with HIV infection in the DMA have a risk factor of heterosexual contact (HC). Heterosexual contact is comprised of heterosexual contact with a female with known risk (HCFR) and heterosexual contact with male (HCM). HCFR is only applicable to males and constitutes persons who had sex with females with known risk factors for HIV, including IDU, recipients of HIV-infected blood products, and/or HIV-positive individuals with unknown risk. HCM is composed of all females whose only reported risk is sex with males, regardless of what is known about the male partners' risk factors. Currently there are an estimated 510 HIV-positive persons who are HCFR (males) and 1,920 persons who are HCM (females) (table 1, page 169).

Race/ethnicity and sex:

Among the 1,906 persons currently living with HIV infection in the DMA with a risk of heterosexual contact, 79 percent are females and 21 percent are males. While females account for 23 percent of all reported HIV infection cases in the DMA, they have consistently accounted for over three quarters of cases with heterosexual risk. The overall proportion of males with heterosexual risk is four percent (table 3, page 171). However, many males report heterosexual contact in addition to other risk factors, such as male-male sex (MSM) or injection drug use (IDU). See table 2, page 170 for data on exposure categories, which represent all reported modes of HIV exposure.

Most heterosexual cases of HIV infection are among black persons (80 percent), largely driven by the high number of black females with heterosexual risk. Sixty-three percent of all black female cases report heterosexual risk. Sixty percent of white female cases, 67 percent of Hispanic female cases, and 64 percent of female cases of other or unknown race have heterosexual risk (table 3).

Expanded risk:

As the majority of cases with heterosexual risk are female, it is useful to examine this expanded risk among different female subgroups. Figures 14 and 15 on the following page show detailed risk information for black females and white females, respectively. While the risk distribution between black females and white females is similar, of note is that white females more frequently report having partners with known risks (such as IDU or men who have ever had sex with a female). Black females have a higher proportion of heterosexual contact without specific risk factors indicated.

2014 Profile of HIV in the Detroit Metro Area

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 14: Black females living with HIV infection in the Detroit Metro Area by expanded risk transmission category, January 2014 (N = 1,928)

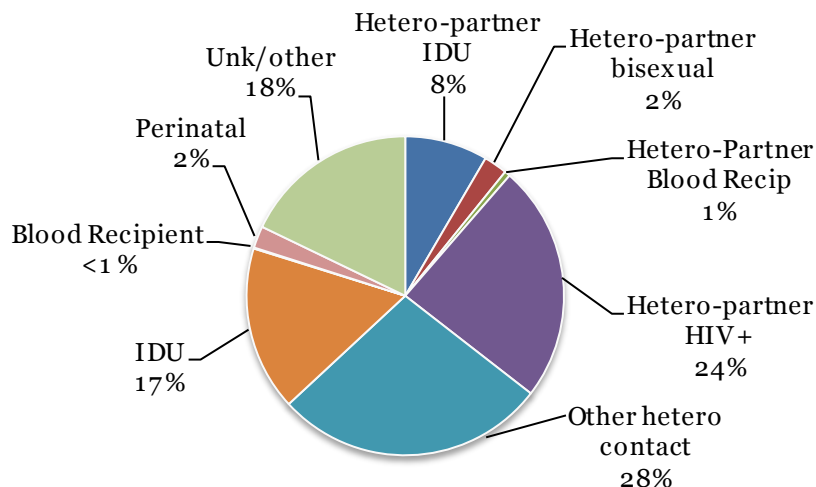
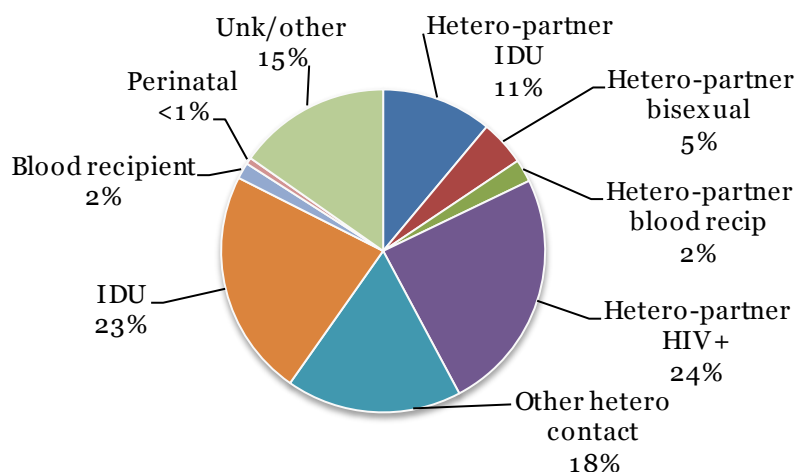


Figure 15: White females living with HIV infection in the Detroit Metro Area by expanded risk transmission category, January 2014 (N = 308)



Age at HIV diagnosis:

Heterosexual contact is the predominant reported risk factor for females who were 13 years of age and older at the time of HIV diagnosis. Over three-quarters (76 percent) of females 13-19 years at the time of diagnosis have heterosexual risk. As age increases, the proportion of HIV-positive females with heterosexual risk decreases, but it remains at least twice as high as injection drug use (IDU) for all females 13 years and older at diagnosis (table 5, page 173).

2014 Profile of HIV in the Detroit Metro Area

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Among HIV-positive males, the proportion with a risk factor of heterosexual sex is low overall (5 percent). However, as age at diagnosis increases, heterosexual contact becomes a larger proportion of the overall risk (with 11 percent of males 60 years and over at diagnosis reporting a risk of heterosexual contact) (table 5). It is important to note that for males to be classified as heterosexual risk, they must report female partners with known HIV risk factors (such as IDU). When considering exposure categories, which represent all reported modes of HIV exposure, 47 percent of HIV-positive males report heterosexual contact (with or without partners with known risk) (table 2, page 170).

Late diagnoses:

Of the 10,545 persons living with HIV in the Detroit Metro Area (DMA), 54 percent (5,721 cases) have progressed to stage 3 HIV infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Persons with a risk of heterosexual sex make up 19 percent (1,078 cases) of persons living with stage 3 infection, of whom 37 percent (397 cases) had late HIV diagnoses. Overall, heterosexuals are more likely than IDU and less likely than MSM to have late diagnoses (table 1, page 169).

Geographic distribution:

Heterosexual contact accounts for a similar proportion of cases in both high and low prevalence counties of the DMA, representing 18 percent in high prevalence counties and 14 percent in low prevalence counties (data not included in tables; see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification).

Trends and conclusions:

Between 2008 and 2012, the number of new HIV diagnoses among persons with heterosexual risk remained stable (Trends). The majority of HIV-positive females in the DMA, regardless of race or age, have heterosexual risk. A small proportion of males have heterosexual risk, but a large proportion (47 percent) of males who have other risks, such as MSM, also had heterosexual contact (table 2). Cases with heterosexual risk have surpassed the proportion of cases attributed to IDU (table 1), and the number of new cases each year among persons with heterosexual risk is almost three times that of IDU (Trends). Additional information on heterosexuals from National HIV Behavioral Surveillance (NHBS) focuses largely on the Detroit Metro Area and can be found on pages 40-43 in the Statewide chapter of this document.

2014 Profile of HIV in the Detroit Metro Area

Ranked Behavioral Group: IDU

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Injection drug users (IDU) are the third ranked behavioral group in the Detroit Metro Area (DMA) and account for 12 percent (1,318 cases) of reported HIV-positive persons (including MSM/IDU). MDCH estimates that there are 1,680 IDU currently living with HIV in the DMA, including 460 HIV-positive males who reported male-male sex and injecting drugs (MSM/IDU) (table 1, page 169).

Race/ethnicity and sex:

Of the 1,318 IDU and MSM/IDU living with HIV, 68 percent are male (897 cases). Black males make up the largest proportion of all IDU and MSM/IDU currently living with HIV in the DMA (47 percent), followed by black females (25 percent), white males (16 percent), white females (5 percent), and Hispanic males (3 percent). In total, three quarters (71 percent, 939 cases) of all IDU and MSM/IDU HIV infection cases occur among black persons (table 3, page 171).

Age at HIV diagnosis:

Among males diagnosed in their 30s and 40s, IDU (including MSM/IDU) is nearly tied with undetermined risk for the second most common risk (15 percent vs. 17 percent, respectively). As age at diagnosis increases, the proportion with a risk of IDU increases (as opposed to MSM, where the proportion decreases with age). This proportion peaks, however, with males 40-49 years at diagnosis and then begins to decrease (table 5, page 173).

Overall, IDU is the second most common risk for females. However, this is true only for females between 30 and 49 years old at the time of HIV diagnosis (21 to 24 percent). For females in all other age groups, IDU falls behind undetermined risk and becomes the third most common risk. When considering males and females together, there are few HIV infection cases with a risk of IDU or MSM/IDU among persons who were teens (13-19 years) at the time of HIV diagnosis (3 percent).

Late diagnoses:

Of the 10,545 persons living with HIV infection in the DMA, 54 percent (5,721 cases) have progressed to stage 3 infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). IDU make up 15 percent (847 cases) of persons living with stage 3 infection, of whom 32 percent (275 cases) had late diagnoses. These data indicate that IDU are more likely than heterosexuals and MSM to get tested earlier in the course of HIV infection (table 1).

Geographic distribution:

The majority (62 percent) of IDU and MSM/IDU currently living with HIV infection in Michigan live in the DMA. Within high prevalence counties of the DMA, 13 percent of reported cases are IDU (including MSM/IDU), while in the lower prevalence counties 12 percent of persons living with HIV infection are IDU (data not included in tables; see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification).

Trends and conclusions:

Between 2008 and 2012, the proportion of persons diagnosed in the DMA who were injection drug users (IDU) remained stable (Trends). This is in contrast to the decreasing trend seen in the past eight trend analyses. Data from Michigan's HIV Behavioral Surveillance suggest reductions among IDU may be partly attributable to the success of harm reduction programs. The majority of IDU are black males (table 3). Additional information on IDU from National HIV Behavioral Surveillance (NHBS) focuses largely on the Detroit Metro Area and can be found on pages 44-46 of the Statewide chapter of this document.

2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS) &
US Census Bureau

Overview:

Black persons comprise the majority of those living with HIV infection in the DMA. They make up 23 percent of the DMA's population yet over two thirds (67 percent) of the persons living with HIV.

MDCH estimates that 9,080 black persons are living with HIV in the DMA. The reported prevalence rate among black persons is 730 cases per 100,000, (1,155 among black males and 368 among black females). One out of 90 black males and one out of 270 black females in the DMA are known to be living with HIV (table 1, page 169).

White persons comprise 26 percent of reported HIV infection cases and 67 percent of the DMA's population. MDCH estimates 3,480 white persons are living with HIV in the DMA. Since these cases occur among a larger overall population, they have a lower reported prevalence rate (95 per 100,000 persons) than black or Hispanic persons. One out of every 580 white males and one out of 4,760 white females are known to be living with HIV in the DMA (table 1).

Hispanic persons make up four percent of HIV cases and four percent of the DMA population. MDCH estimates that 480 Hispanic persons are living with HIV infection in the DMA. The prevalence rate (212 per 100,000 persons) is higher than that among white persons as a result of a smaller overall population. One out of 310 Hispanic males and one out of 980 Hispanic females are known to be living with HIV (table 1). See page 50 of the Statewide chapter for a more in-depth analysis of Hispanic persons.

Much like statewide, Asian/Native Hawaiian or Other Pacific Islanders comprise just one percent of HIV cases and four percent of the population in the DMA. They have a prevalence rate of 36 per 100,000 persons which is the smallest of any other racial/ethnic group. American Indian/Alaskan Native persons comprise less than one percent of HIV cases and less than one percent of the population but have a prevalence rate greater than that of white persons (136 per 100,000 population). More data on Asian/Native Hawaiian or Other Pacific Islander, and American Indian/Alaska Native persons living with HIV can be found in tables 25, 26, 27, and 28 of the Statewide chapter (pages 130-133). Arab persons living with HIV are discussed further on page 99 of the Statewide chapter.

Most persons living with HIV infection in the DMA are male (77 percent). The majority of the 8,150 male cases are black (64 percent), 30 percent are white, three percent are Hispanic, and three percent are other or unknown race. The majority of the 2,395 female HIV cases are also black (81 percent), 13 percent are white, four percent are Hispanic, and three percent are other or unknown race (table 3).

Racial and ethnic health disparities:

The DMA is similar to the state of Michigan as a whole in that large racial and ethnic disparities are seen in HIV prevalence rates and rates of new diagnoses. The epidemic disproportionately impacts black persons. The HIV prevalence rate among black persons in the DMA is 730 cases per 100,000 persons, almost eight times higher than the rate among white persons (95 per 100,000) (table 1). Black persons are also disproportionately represented in new diagnoses. Between 2008 and 2012, the rate of new diagnoses among black males was eight times that of white males, and the rate among black females was 16 times that of white females. Overall, black persons are diagnosed with HIV at 10 times the rate of white persons (Trends).

2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

In addition to the black community, the Hispanic population is also disproportionately impacted. While only four percent of reported cases occur among this group, the prevalence rate is over twice that of the white population (table 1).

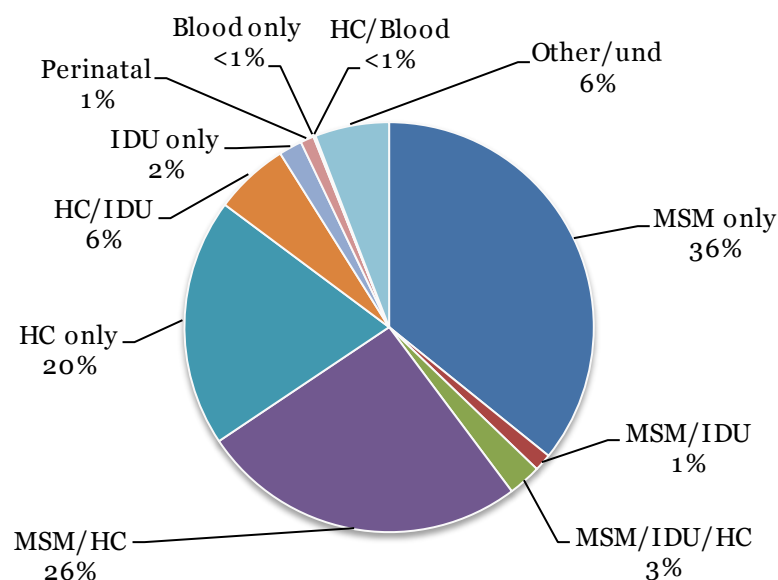
Three quarters of all persons living with HIV in the DMA are a racial or ethnic minority (table 1). Given that HIV disproportionately impacts minorities, and the DMA has the highest burden of HIV in the state, it is important to focus attention on these disparities.

Exposure:

Since the majority of HIV-positive males have a risk of male-male sex (MSM), it is particularly useful to examine exposure categories (as many other exposures may be masked if the person is MSM). Figures 16 and 17 show black and white male cases living in the Detroit Metro Area (DMA) by exposure category. A smaller proportion of HIV-positive black males have an exposure of MSM only compared to white males (36 percent vs. 59 percent, respectively). Twenty-nine percent of black male cases reporting male-male sex and also report heterosexual contact (HC), including three percent who report male-male sex, injection drug use, and heterosexual contact (MSM/IDU/HC). Twenty percent of black males report heterosexual contact as their only exposure, compared to nine percent of white male cases. A larger proportion of HIV-positive black males report a dual risk of injection drug use and heterosexual contact compared to white males (six percent vs. two percent, respectively).

See figures 14 and 15 on page 152 for expanded risk among black and white HIV-positive females in the DMA. For females, expanded risk transmission categories are examined since the majority of female cases have heterosexual risk. The large number of male cases who report both MSM and heterosexual contact is interesting, given that just two percent of females report sex with MSM. This is likely an underestimate due to lack of completion of risk factor questions on the case report form (data not shown in tables).

Figure 16: Black male HIV infection cases currently living in the Detroit Metro Area by exposure category, January 2014 (N = 5,177)

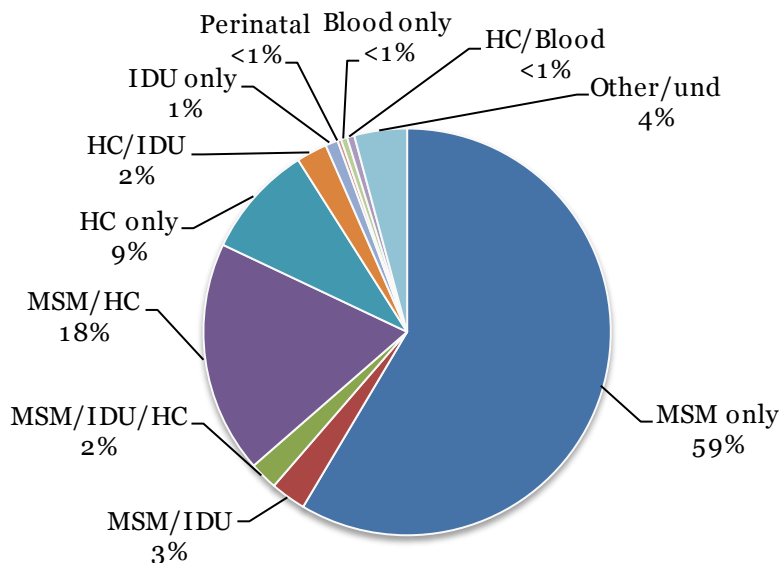


2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 17: White male HIV infection cases currently living in the Detroit Metro Area by exposure category, January 2014 (N = 2,416)



Late Diagnoses:

Of the 10,545 persons living with HIV infection in the DMA, 54 percent (5,721 cases) have progressed to stage 3 infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Males make up 78 percent of stage 3 cases, of whom 43 percent had late HIV diagnoses. Females make up the remaining 22 percent of stage 3 cases, of whom 36 percent had late diagnoses (table 1, page 169).

Although black persons make up a larger proportion of persons living with stage 3 compared to white persons (68 vs. 25 percent, respectively), a larger proportion of white persons living with stage 3 infection had late diagnoses than did black persons (48 vs. 40 percent, respectively). Hispanic persons make up three percent of stage 3 cases, of whom 43 percent had late HIV diagnoses. Other minorities make up roughly three percent of stage 3 cases, but Asians/Native Hawaiians or Other Pacific Islanders have the highest proportion of stage 3 cases that were late diagnoses (62 percent). Statewide, only 52 percent of stage 3 cases among Asians/Native Hawaiians or Other Pacific Islanders were late diagnoses (which is similar to the proportion of late diagnoses among other racial/ethnic groups (table 1).

Geographic distribution:

The distribution of HIV among various racial/ethnic groups differs throughout the DMA. When examining the rates of different racial/ethnic groups in high and low prevalence areas, it becomes apparent that the impact of the epidemic is greater in high prevalence areas than in low prevalence areas (see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification).

2014 Profile of HIV in the Detroit Metro Area

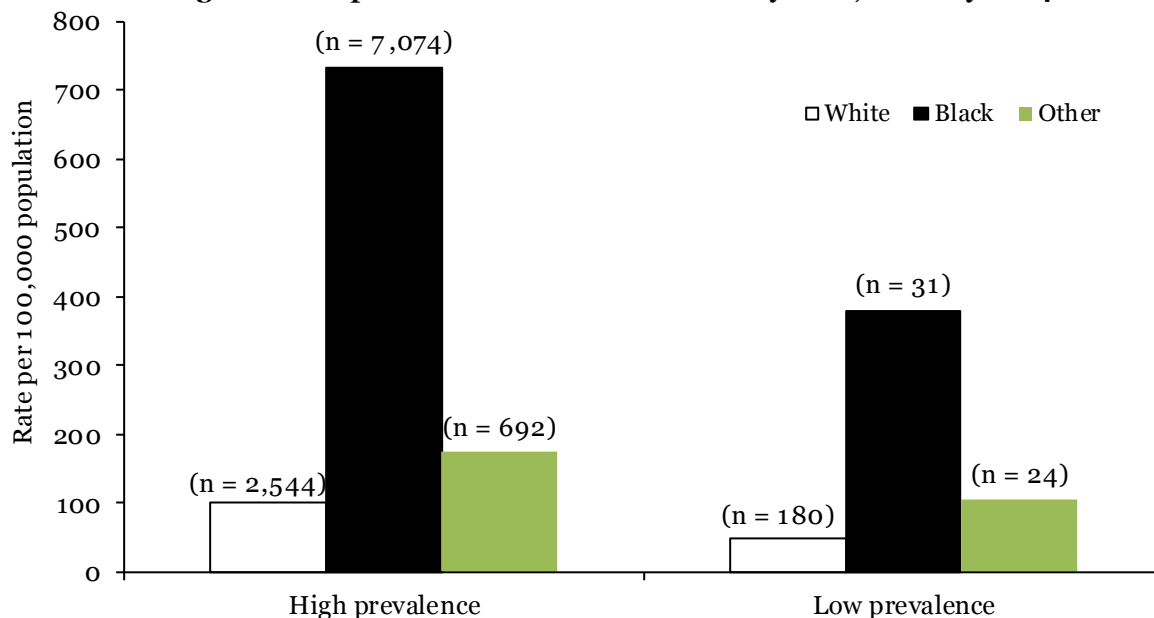
Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 18 shows that HIV prevalence rates in high prevalence counties of the DMA are at least one and a half times as high as those in low-prevalence counties for all racial/ethnic groups. Additionally, the HIV infection prevalence rate among black persons is over seven times higher than white persons in high prevalence counties and in low prevalence counties. This disparity exists despite the fact that black persons make up a smaller proportion of HIV infection cases in low prevalence counties than they do in high prevalence counties (13 percent vs. 69 percent, respectively).

The HIV infection prevalence rates among persons of other races/ethnicities (including Hispanics, Asians/Native Hawaiians or Other Pacific Islanders, American Indians/Alaska Natives, and persons of other, multi-, or unknown race) are over one and a half times as high as the rate among white persons in high prevalence counties and twice as high as the rate among whites in low prevalence counties.

Figure 18: Prevalence rates of persons living with HIV infection in high and low prevalence areas of the DMA by race, January 2014



Trends and conclusions:

The rate of new HIV diagnoses in the Detroit Metro Area (DMA) increased among white males and whites overall (average six percent per year) between 2008 and 2012 (Trends). Diagnosis and prevalence rates remain highest among black persons of both sexes compared to all other race/sex groups (table 1, page 169).

2014 Profile of HIV in the Detroit Metro Area

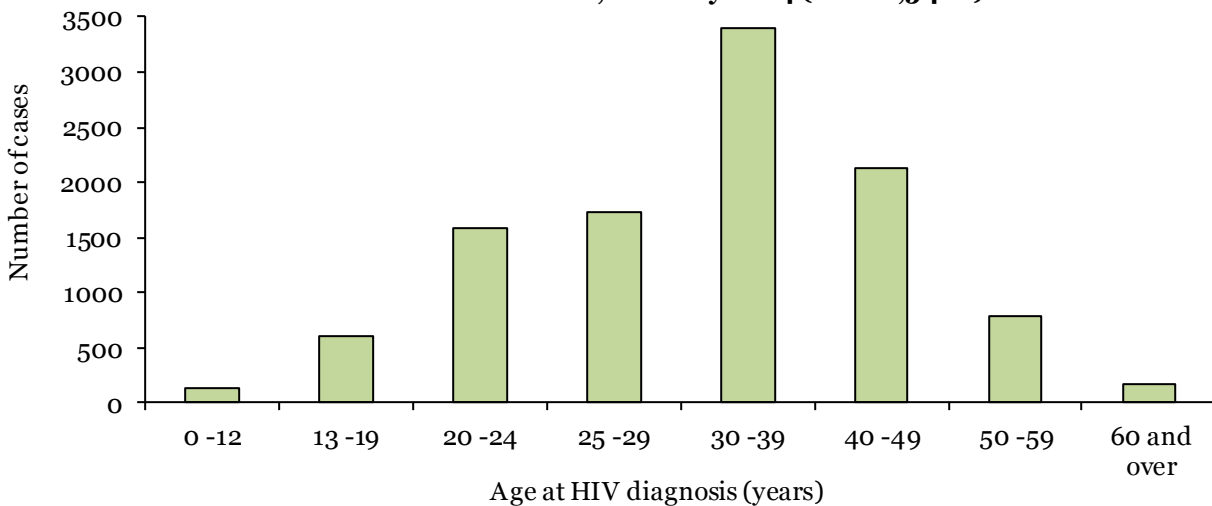
Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Age at diagnosis:

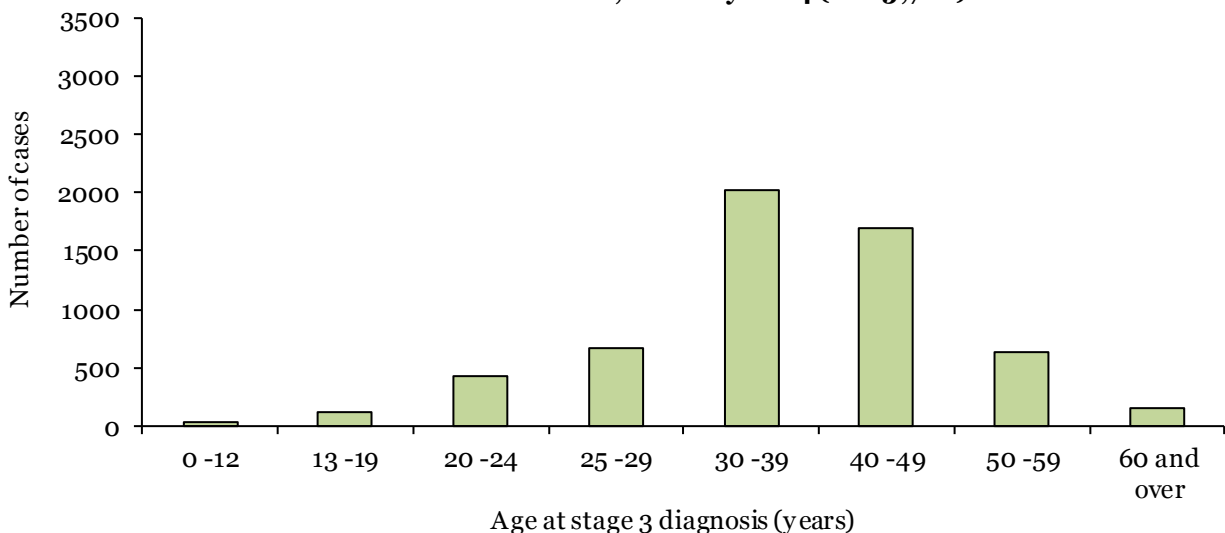
The majority of persons newly diagnosed with HIV in the DMA are between 30 and 39 years old, followed by persons 40-49 years of age (figure 19). The proportion changes when looking at age at stage 3 diagnosis in figure 20, where 40-49 year olds make up a higher proportion of new stage 3 diagnoses than new HIV diagnoses (23 percent vs. 20 percent, respectively), and 20-24 and 25-29 year olds make up smaller proportions of stage 3 diagnoses than all new HIV diagnoses (27 percent vs. 31 percent, respectively). This is because many years may pass between HIV diagnosis and progression to stage 3 infection (data on age at HIV and stage 3 diagnosis found in table 1, page 169).

Figure 19: Age at HIV diagnosis for persons living with HIV infection in the Detroit Metro Area, January 2014 (N = 10,542*)



*Not included are 3 HIV infection cases with missing date of birth/age information.

Figure 20: Age at stage 3 diagnosis for persons living with HIV infection in the Detroit Metro Area, January 2014 (N = 5,721)

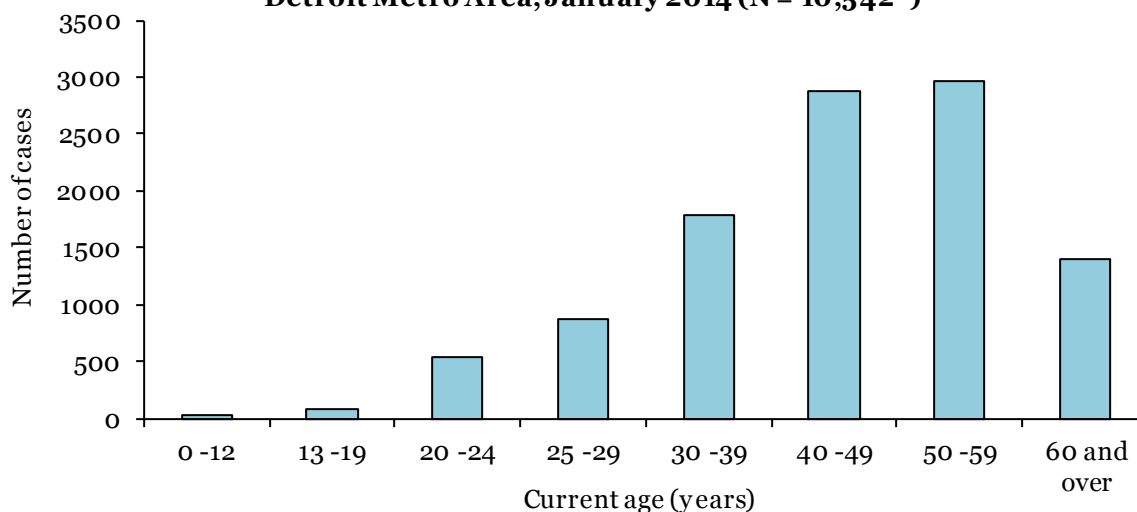


2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 21: Current age of persons living with HIV infection in the Detroit Metro Area, January 2014 (N = 10,542*)



*Not included are 3 HIV infection cases with missing date of birth/age information.

Current age:

Since use of Highly Active Anti-Retroviral Therapy (HAART) became widespread in 1996, HIV-positive persons have been living longer. This is evident in figure 21, which shows the current age of persons living with HIV in the Detroit Metro Area (DMA) as of January 1, 2014. Those currently in their fifties make up the largest proportion of persons living with HIV (28 percent). While persons who were 50 years and older at the time of HIV diagnosis represent only nine percent of newly diagnosed cases, they make up not quite half (41 percent) of persons living with HIV when considering current age (data on current age not shown in tables).

Late diagnoses:

Of the 10,545 persons living with HIV infection in the DMA, 54 percent (5,721 cases) have progressed to stage 3 infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). When examining persons living with stage 3 infection by age at HIV diagnosis, the proportion of cases with late diagnoses increases as age increases. Among persons 60 years and older at stage 3 diagnosis, 70 percent had late diagnoses (table 1, page 169).

Trends and conclusions:

Between 2008 and 2012, the rate of new diagnoses increased among persons 20-24 years (7 percent per year). This is the fourth consecutive report showing increases among 20-24 year olds. Rates among all other age groups remained stable during this time. Twenty to twenty-four year olds have the highest *rate* of new diagnoses of any age group (figure 10, page 136). The largest *number* of new diagnoses and highest prevalence, however, remains among persons 30-39 years old at the time of diagnosis (Trends and table 1). When considering current age, persons 50-59 years, followed by persons 40-49 years, make up the largest proportion of persons living with HIV infection.

2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: Children (0-12 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 133 individuals living with HIV in the DMA who were 0-12 years old at diagnosis. They comprise one percent of all reported HIV infection cases (table 1, page 169). Most 0-12 year olds (90 percent) were infected perinatally, i.e., before, during, or shortly after birth. Four percent were infected through exposures to HIV-infected blood products before 1985, and the remaining six percent were infected through sexual assault or had unknown risk. Many with unknown risk had suspected perinatal exposures but were born outside of the U.S., and risk information could not be confirmed (table 5, page 173).

Race/ethnicity and sex:

Of the 133 individuals living in the DMA who were ages 0-12 when diagnosed with HIV, 59 percent are male and 41 percent are female. Three quarters are black (75 percent), 12 percent are white, and the remaining 13 percent are of other or unknown race/ethnicity (including Hispanic) (table 4, page 172).

Of the 123 individuals with confirmed perinatal exposures, 58 percent are male and 42 percent are female. Eighty percent are black, seven percent are white, and 13 percent are Hispanic or other/unknown race (table 3, page 171). For all but one of these perinatally infected cases, whose mother was a documented injection drug user (IDU), the only information about the mother is that she was HIV-positive; no additional maternal risk information was available (data not shown in tables).

Late diagnoses:

Of the 10,545 persons living with HIV infection in the DMA, 54 percent (5,721 cases) have progressed to stage 3 infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Children make up one percent of persons living with stage 3, of whom 27 percent (14 cases) had late HIV diagnoses (table 1, page 169).

Geographic distribution:

Almost all (97 percent) of the 133 children diagnosed with HIV between the ages of 0-12 years are currently residents of high prevalence counties in the DMA (see figure 2, page 18 of the statewide chapter for high/low prevalence county classification; data not shown in tables).

Trends and conclusions:

Among the best measurable successes in reducing HIV transmission has been prevention of mother to child (perinatal) transmission. Without antiretroviral (ARV) prophylaxis, about 25 percent of children born to HIV-positive females could expect to become HIV-positive themselves. In the DMA, the proportion of children who become infected perinatally has dropped precipitously, from 28 percent prior to 1997 to five percent between 1997-2009. As of January 1, 2014, two of the 25 children born in the DMA in 2009, none of the 28 children born in the DMA in 2010, and two of the 47 children born in the DMA in 2011 to HIV-positive females were diagnosed with HIV infection. None of the 51 children born in the DMA in 2012-2013 to HIV-positive females have been diagnosed with HIV, although data are not complete at this time (data not shown in tables). NOTE: numbers in this paragraph are based on residence at *birth*, NOT current residence.

2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: Teens and Young Adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 2,191 persons living in the Detroit Metro Area (DMA) who were ages 13-24 years old at HIV diagnosis. They comprise 21 percent of all persons reported with HIV infection in the DMA (six percent ages 13-19 years; 15 percent ages 20-24 years). The number of prevalent cases among persons ages 13-24 years at diagnosis is higher than the number of prevalent cases among persons ages 25-29 years at diagnosis (table 1, page 169).

Risk-teens (13-19 years):

In the 1980s, most HIV-positive teenagers were recipients of HIV-infected blood or blood products. However, since screening of all blood products began in 1985, this proportion has steadily declined. Among the 608 persons living with HIV in the DMA who were ages 13-19 at the time of HIV diagnosis, 479 (79 percent) are male (table 4, page 172). Among these male cases, over three quarters are males who have sex with males (MSM) (84 percent), including those who also inject drugs (MSM/IDU) (figure 22). Two percent were recipients of HIV-infected blood products before 1985, and three percent are injection drug users (including MSM/IDU). One percent had heterosexual contact with females of known risk (HCFR). Eleven percent had undetermined risk. Eleven percent of 13-19 year old males had undetermined risk.

Figure 22: Males ages 13-19 at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 479)

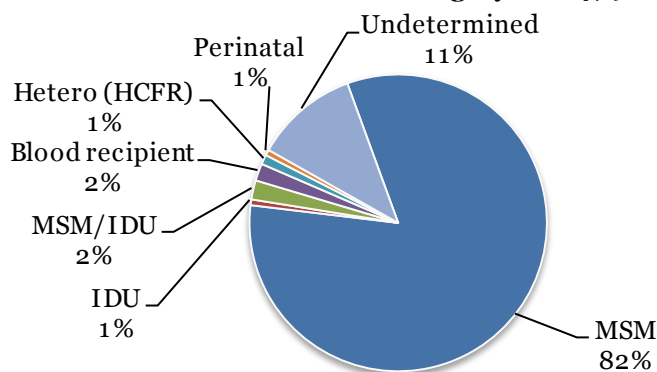
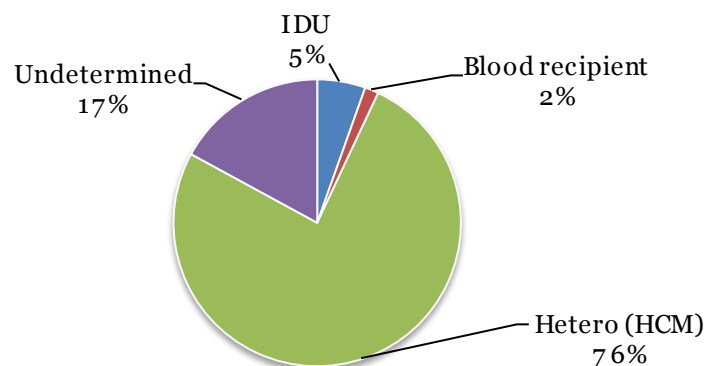


Figure 23: Females ages 13-19 at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 129)



2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: Teens and Young Adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Females make up the remaining 129 persons living with HIV in the DMA who were ages 13-19 at the time of diagnosis (21 percent) (table 4). Of females who were 13-19 years at the time of diagnosis, over three quarters (76 percent) have a risk of heterosexual contact (HCM) (figure 23, page 162). Five percent are injection drug users (IDU), and 17 percent have undetermined risk. Two percent were recipients of HIV-infected blood products before 1985.

Risk-young adults:

Among the 1,583 persons living with HIV in the DMA who were ages 20-24 at the time of HIV diagnosis, over three quarters (81 percent) are male (table 4, page 172). Eighty-five percent of male young adults reported sex with other males (including MSM/IDU); 12 percent had undetermined risk; and three percent reported IDU (including MSM/IDU). Two percent had heterosexual risk (HCFR), and less than one percent received HIV-infected blood products (figure 24).

Figure 25 shows that, among the 298 females living with HIV who were ages 20-24 at the time of diagnosis, 69 percent had heterosexual risk (HCM). Twenty percent of HIV-positive females in this age group had undetermined risk, and 11 percent were IDU. Less than one percent received HIV-infected blood products.

Figure 24: Males ages 20-24 at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 1,285)

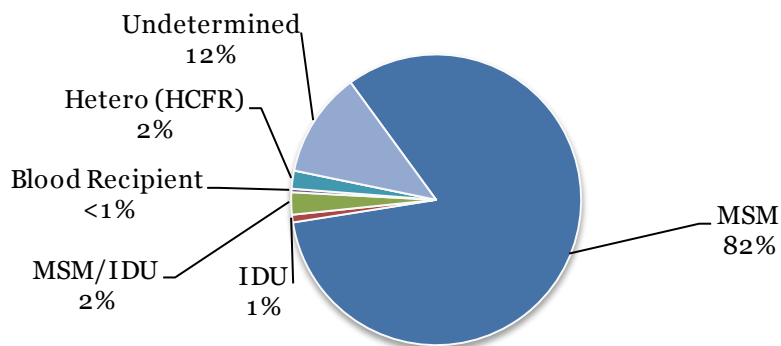
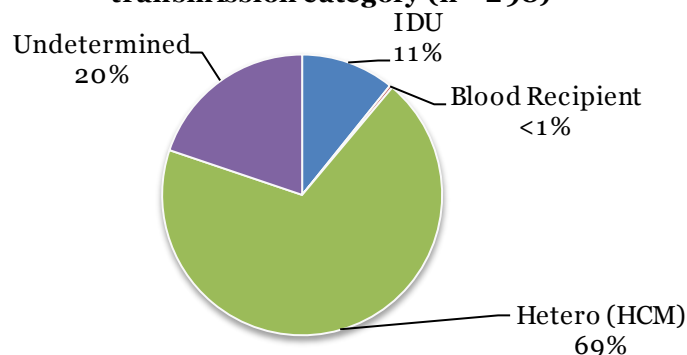


Figure 25: Females ages 20-24 at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 298)



2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: Teens and Young Adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS), Michigan Disease Surveillance System (MDSS), & Vital Records

Race/ethnicity:

Eighty-five percent of persons currently living in the Detroit Metro Area (DMA) and were 13-19 at the time of HIV diagnosis are black, 10 percent are white, three percent are Hispanic, and two percent are of other or unknown race. Seventy-eight percent of persons ages 20-24 at the time of HIV diagnosis are black, 16 percent are white, four percent are Hispanic, and three percent are of other or unknown race. Comparing these proportions with the racial/ethnic breakdown of those over 24 years at diagnosis (64 percent black, 29 percent white, four percent Hispanic, and three percent other or unknown race) shows that HIV-positive youth are disproportionately black (table 4, page 172).

STDs:

STD rates are highest among teens and young adults. The STD data are shown on table 6 (page 174). In persons ages 20-24 years, the rate of chlamydia is six times higher and the rate of gonorrhea is over five times higher than the rate among the general population. Although those ages 13-24 make up only 16 percent of the population, they represent 63 percent of gonorrhea cases and 75 percent of chlamydia cases. In 2013, 39 percent of primary and secondary syphilis cases were under the age of 24, a marked increase compared to 28 percent in 2011. While rates of STDs among 13-24 year olds are higher than any other age groups, the rates of HIV in this demographic group are comparably low. Also, since the rates of HIV among teens are very low, and because most teens have sex with other teens, the gonorrhea and chlamydia epidemic is perpetuated and HIV is rarely introduced into the general teen population. However, as discussed in other sections of this profile, young black MSM are becoming HIV infected at an alarming rate.

Teen pregnancy:

In the DMA, the 2012 teen pregnancy rate ranged from 24 pregnancies per 1,000 females ages 15-19 in Oakland County to 67 pregnancies per 1,000 females ages 15-19 in Wayne County, which was the second highest rate of all counties in Michigan (data not shown in tables).

Geographic distribution:

Almost all (98 percent) of persons 13-24 years old at diagnosis currently living in the DMA live in high prevalence counties (see figure 2, page 18 of the statewide chapter for high/low prevalence county classification), which is the same as the distribution for all HIV-positive persons (data not shown in tables).

Trends and conclusions:

The rate of new diagnoses remained stable among persons 13-19 years of age in the DMA between 2008 and 2012. This is the third time in nine consecutive annual trend analyses that there was not a significant increase in the rate of new diagnoses in this group. However, the rate of new diagnoses among 20-24 year olds increased for the fourth consecutive trend report. Decreasing rates among 35-39 year and 40-44 year olds have resulted in 13-24 year olds representing a larger proportion of new diagnoses and prevalent cases (Trends). The most frequently reported risk among male teen and young adult cases is male-male sex (MSM), while the most frequently reported risk among female teen and young adult cases is heterosexual contact (HCM) (table 5, page 173). The majority of HIV-positive persons diagnosed in these age groups are black and live in the City of Detroit (data not shown in tables).

2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 962 persons living with HIV infection in the Detroit Metro Area (DMA) who were 50 years and older at the time of diagnosis. They comprise nine percent of all re-reported HIV-positive persons, and three quarters (76 percent) are male. Sixty-five percent are black, 30 percent are white, and six percent are Hispanic or other/unknown race (table 4, page 172).

Risk-males:

When examining risk, those who were in their fifties at the time of HIV diagnosis have a different risk profile than those who were ages 60 and older. Therefore, the risks of these two populations are discussed separately.

As of January 2014, there were 597 males currently living with HIV in the DMA who were diagnosed in their 50s (76 percent of all persons 50-59 years at diagnosis) (table 5, page 173). Of all persons 60 and over at HIV diagnosis, 132 are males (73 percent). Figures 26 and 27 show the risk profiles of males diagnosed in their 50s and at 60 and older, respectively.

Figure 26: Males ages 50-59 at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 597)

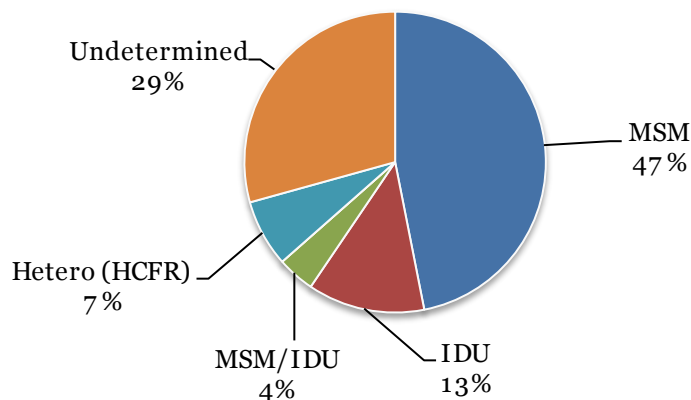
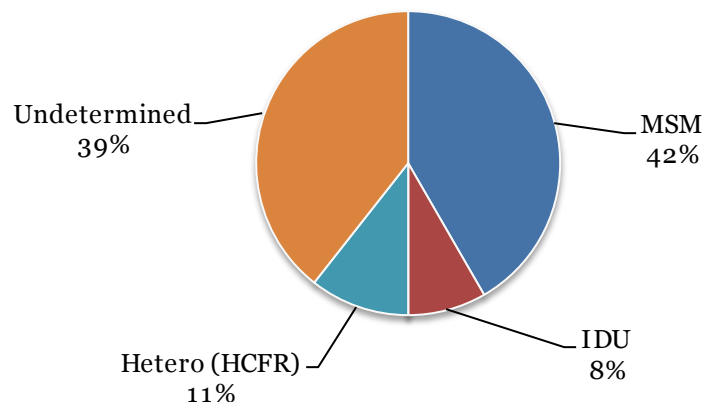


Figure 27: Males ages 60 and older at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 132)



2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: 50 years and older

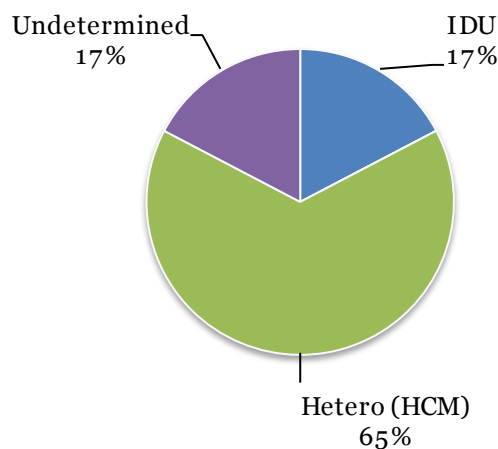
Data from enhanced HIV/AIDS Reporting System (eHARS)

As with males in all other age groups (excluding 0-12 year olds), male-male sex (MSM) is the most common risk (including those who also inject drugs, or MSM/IDU). However, the proportion who are MSM decreases with increasing age. Both males 50-59 years old and 60 years and older at HIV diagnosis have higher proportions of undetermined risk than males diagnosed at younger ages (29 and 39 percent, respectively). Males who were in their 50s at HIV diagnosis are more likely to be injection drug users (IDU) compared to males 60 years and older (17 percent vs. eight percent, respectively). This includes males with a dual risk of male-male sex and IDU (MSM/IDU). The proportion of males reporting heterosexual risk (HCFR) increases with age, representing seven percent of males who were 50-59 years old at HIV diagnosis and eleven percent of males 60 and older at diagnosis.

Risk-females:

As with HIV-positive females in other age groups, the most common risk is heterosexual contact (HC) (65 percent and 56 percent, respectively) (figures 28 and 29). Four percent of females 60 years and older at diagnosis were recipients of HIV-infected blood products (compared to none in those 50-59 years at diagnosis), and females in their 50s at diagnosis are more likely to be injection drug users (17 percent vs. 15 percent, respectively).

Figure 28: Females ages 50-59 at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 185)

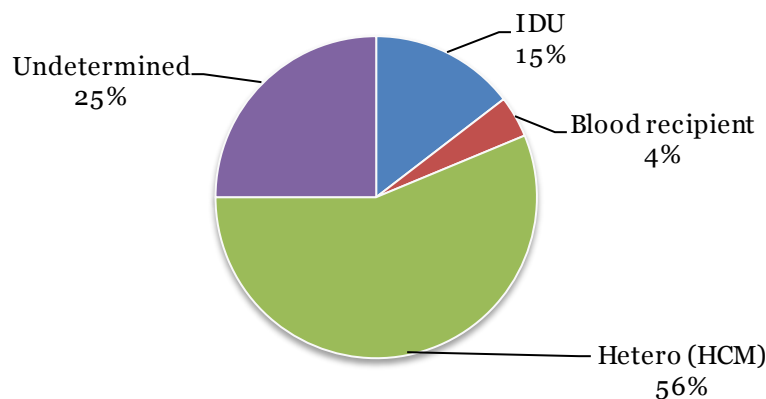


2014 Profile of HIV in the Detroit Metro Area

Description of the Epidemic by Age: 50 years and older

Data from Michigan Disease Surveillance System (MDSS) & enhanced HIV/AIDS Reporting System (eHARS)

Figure 29: Females ages 60 and older at diagnosis currently living with HIV infection in the Detroit Metro Area, by risk transmission category (n = 48)



STDs:

Gonorrhea and chlamydia are epidemics that largely affect young people, with just one percent of chlamydia cases and two percent of gonorrhea cases being over 50. Seventy-four percent of gonorrhea cases and 46 percent of chlamydia cases are among males. In contrast, eight percent of primary and secondary syphilis cases are over the age of 50. These individuals are more likely to be male (100 percent versus 93 percent) and more likely to be white (57 percent vs. 20 percent) than the entire DMA syphilis demographic (age/race/sex breakdown not shown in tables).

Late diagnoses:

Of the 10,545 persons living with HIV infection in the Detroit Metro Area (DMA), 54 percent (5,721 cases) have progressed to stage 3 infection. Of these, 2,384 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Persons who were in their fifties at HIV diagnosis make up eight percent (455 cases) of persons living with stage 3 infection, of whom 59 percent had late HIV diagnoses. Those who were 60 years and older at diagnosis make up two percent of persons living with stage 3 infection (103 cases), of whom 70 percent had late diagnoses. These two age groups have the highest proportion of late diagnoses of all age groups (table 1, page 169).

Trends and conclusions:

In the DMA, the rate of persons who were 50 years and older at the time of HIV diagnosis remained level between 2008 and 2012 (Trends). Although persons 50 years and older have the lowest rates of new diagnoses (except for those 0-12 years), it is important to understand the specific challenges faced by older Michiganders and to ensure that they receive information and services to help protect them from infection.

Although it is still low, males who were 50-59 years and 60 years and older at HIV diagnosis have the highest proportion of heterosexual risk of males in any age group (7 percent and 11 percent, respectively) (table 5, page 173). This is an important distinction when preparing targeting prevention and interventions.

2014 Profile of HIV in the Detroit Metro Area

Sexually Transmitted Diseases

Data from Michigan Disease Surveillance System (MDSS)

Overview:

Several sexually transmitted diseases (STDs) are more common than HIV infection, have a short incubation period, and are curable. Reviewing their patterns of transmission can provide additional information regarding recent sexual behavior and potential risk, not available from HIV/AIDS data. Studies have shown that the risk of both acquiring and spreading HIV is two to five times greater in people with STDs. Aggressive STD treatment in a community can help to reduce the rate of new HIV infections.

Gonorrhea and chlamydia:

During 2013 alone, there were nearly 23,000 cases of chlamydia and over 6,500 cases of gonorrhea reported in the Detroit Metro Area (table 6, page 174). For gonorrhea and chlamydia, the highest rates of infection were among persons age 20-24. This age group comprises 6 percent of the DMA population but accounted for 37 percent of gonorrhea and 40 percent of chlamydia cases. The rates of chlamydia and gonorrhea among black persons were much higher than among white persons. Even though 35 percent of gonorrhea cases and 40 percent of chlamydia cases were missing race information, the rates (number of cases per population) among black persons remain several times higher even if all unknown cases were among white persons. Among cases with known race, the rate in the DMA among black persons is 17 times the rate for white persons for gonorrhea, and nine times for chlamydia. Forty-five percent of gonorrhea cases were male; however 72 percent of reported chlamydia cases were female. This is because chlamydia screening targets females.

Syphilis:

Reported infectious syphilis cases in Michigan peaked in 1991 (1,303 cases), and again in 2002 (486 cases). Cases dropped to between 105 and 125 cases from 2005 to 2007, then rose slowly from 216 to 295 cases between 2008 and 2012, before climbing sharply to 498 cases in 2013. Increases since 2008 correspond to more diagnoses among MSM, many of whom are HIV positive. The DMA reported 81 percent of Michigan primary and secondary syphilis cases in 2013. Thirty-nine percent of cases were reported in those younger than 25 years old, representing a shift towards younger syphilis cases, while 42 percent are ages 25-39 and 19 percent are age 40 and over. The age distribution for syphilis is more similar to gonorrhea and chlamydia than ever before (table 6, page 174). Infectious syphilis cases reported in 2013 in the DMA were 76 percent black and 93 percent male. The rate among blacks was almost eleven times the DMA rate for whites (data not shown in tables).

Sexual orientation:

Nationwide, increases in STD cases among self-identified men who have sex with men have been mirrored in Michigan. Although Michigan does not collect data on sexual orientation for all gonorrhea or chlamydia cases, these data are collected for syphilis cases. Eighty percent of all primary and secondary syphilis cases in 2013 were men who have sex with men, and 54 percent of MSM were HIV co-infected (data not shown in tables).

Table 1: Demographic information on HIV infection cases currently living in the Detroit Metro Area, 2014

	EST PREV*	REPORTED HIV INFECTION PREVALENCE									CENSUS 2012 ESTIMATES ¹	
		HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL			Late HIV diagnosis			
		Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num
RACE/ ETHNICITY ⁵												
White	3,480	1,273	26%	1,451	25%	2,724	26%	95	695	48%	2,864,772	67%
Black	9,080	3,233	67%	3,872	68%	7,105	67%	730	1,536	40%	972,770	23%
Hispanic	480	175	4%	199	3%	374	4%	212	86	43%	176,407	4%
Asian/NH/OPI	70	26	1%	29	1%	55	1%	36	18	62%	152,847	4%
AI/AN	20	13	<1%	4	<1%	17	<1%	136	1	25%	12,467	<1%
Multi/other/unk	340	104	2%	166	3%	270	3%	N/A	48	29%	81,007	2%
SEX & RACE												
Male	10,410	3,708	77%	4,442	78%	8,150	77%	395	1,920	43%	2,064,378	48%
White male	3,090	1,106	23%	1,310	23%	2,416	23%	172	642	49%	1,406,602	33%
Black male	6,610	2,351	49%	2,826	49%	5,177	49%	1155	1,153	41%	448,159	11%
Hispanic male	360	137	3%	148	3%	285	3%	320	66	45%	89,144	2%
Other male	350	114	2%	158	3%	272	3%	226	59	37%	120,473	3%
Female	3,060	1,116	23%	1,279	22%	2,395	23%	109	464	36%	2,195,892	52%
White female	390	167	3%	141	2%	308	3%	21	53	38%	1,458,170	34%
Black female	2,460	882	18%	1,046	18%	1,928	18%	368	383	37%	524,611	12%
Hispanic female	110	38	1%	51	1%	89	1%	102	20	39%	87,263	2%
Other female	90	29	1%	41	1%	70	1%	56	8	20%	125,848	3%
RISK†												
Male-male Sex (MSM)	6,910	2,509	52%	2,901	51%	5,410	51%	--	1,228	42%	--	--
Injection drug use (IDU)	1,220	330	7%	626	11%	956	9%	--	205	33%	--	--
MSM/IDU	460	141	3%	221	4%	362	3%	--	70	32%	--	--
Blood products	50	11	<1%	29	1%	40	<1%	--	8	28%	--	--
Heterosexual contact (HC)	2,430	828	17%	1,078	19%	1,906	18%	--	397	37%	--	--
HCFR (male)	510	157	3%	244	4%	401	4%	--	96	39%	--	--
HCM (female)	1,920	671	14%	834	15%	1,505	14%	--	301	36%	--	--
Perinatal	160	76	2%	47	1%	123	1%	--	16	34%	--	--
Undetermined	2,230	929	19%	819	14%	1,748	17%	--	460	56%	--	--
AGE AT HIV DIAGNOSIS												
0 - 12 years	170	82	2%	51	1%	133	1%	--	14	27%	--	--
13 - 19 years	780	363	8%	245	4%	608	6%	--	47	19%	--	--
20 - 24 years	2,020	924	19%	659	12%	1,583	15%	--	155	24%	--	--
25 - 29 years	2,200	854	18%	869	15%	1,723	16%	--	266	31%	--	--
30 - 39 years	4,350	1,371	28%	2,031	36%	3,402	32%	--	840	41%	--	--
40 - 49 years	2,720	823	17%	1,308	23%	2,131	20%	--	721	55%	--	--
50 - 59 years	1,000	327	7%	455	8%	782	7%	--	269	59%	--	--
60 years and over	230	77	2%	103	2%	180	2%	--	72	70%	--	--
Unspecified	10	3	<1%	0	0%	3	<1%	--	0	0%	--	--
CURRENT RESIDENCE												
Lapeer Co.	60	21	<1%	23	<1%	44	<1%	50	10	43%	88,173	2%
Macomb Co.	1,120	439	9%	436	(8%)	875	8%	103	205	47%	847,383	20%
Monroe Co.	100	42	1%	40	(1%)	82	1%	54	20	50%	151,048	4%
Oakland Co.	2,590	968	20%	1,059	(19%)	2,027	19%	166	450	42%	1,220,657	29%
St Clair Co.	140	58	1%	51	(1%)	109	1%	68	22	43%	160,644	4%
Wayne Co. Total	9,460	3,296	68%	4,112	(72%)	7,408	70%	413	1,677	41%	1,792,365	42%
Wayne Co. (excl. Detroit)	2,330	808	17%	1,014	(18%)	1,822	17%	167	433	43%	1,090,890	26%
City of Detroit	7,140	2,488	52%	3,098	(54%)	5,586	53%	796	1,244	40%	701,475	16%
Detroit Metro Area Total	13,470	4,824	100%	5,721	100%	10,545	100%	248	2,384	42%	4,260,270	100%

*See pages iv-v for descriptions of prevalence estimate calculations. NOTE: prevalence estimates throughout this document are based on the number of people currently living with HIV in Michigan as of January 2014. Prevalence estimates in other MDCH documents are based on the number of people living with HIV who were diagnosed in MI.

[†] See page vi of the Forward for risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCFR). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

⁵ In this report, persons described as white, black, Asian/Native Hawaiian or Other Pacific Islander (Asian/NH/OPI), or American Indian/Alaskan Native (AI/AN) are all non-Hispanic; persons described as Hispanic may be of any race.

¹ Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

TABLE 2: Risk transmission and exposure categories for HIV infection cases currently living in the Detroit Metro Area by sex, 2014

REPORTED HIV INFECTION PREVALENCE						
	Male		Female		Overall	
	Num	Percent	Num	Percent	Num	Percent
RISK TRANSMISSION CATEGORIES (CDC Hierarchy)*§						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-male sex (MSM)	5,410	66%	N/A	--	5,410	51%
Injection drug use (IDU)	535	7%	421	18%	956	9%
MSM/IDU	362	4%	N/A	--	362	3%
Blood products	32	<1%	8	<1%	40	<1%
Heterosexual contact (HC)	401	5%	1,505	63%	1,906	18%
HCFR (male)	401	5%	N/A	--	401	4%
HCM (female)	0	--	1,505	63%	1,505	14%
Perinatal	71	1%	52	2%	123	1%
Undetermined	1,339	16%	409	17%	1,748	17%
EXPOSURE CATEGORIES**†						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-male sex only	3,510	43%	N/A	--	3,510	33%
MSM & HC	1,880	23%	N/A	--	1,880	18%
MSM & IDU	153	2%	N/A	--	153	1%
MSM & blood products	11	<1%	N/A	--	11	<1%
MSM & HC & IDU	203	2%	N/A	--	203	2%
MSM & HC & blood products	9	<1%	N/A	--	9	<1%
MSM & IDU & blood products	3	<1%	N/A	--	3	<1%
MSM & HC & IDU & blood products	3	<1%	N/A	--	3	<1%
Heterosexual contact only	1,329	16%	1,776	74%	3,105	29%
HC & IDU	400	5%	361	15%	761	7%
HC & blood products	20	<1%	23	1%	43	<1%
HC & IDU & blood products	7	<1%	10	<1%	17	<1%
Injection drug use only	128	2%	50	2%	178	2%
IDU & blood products	0	0%	0	0%	0	0%
Perinatal exposure	71	1%	52	2%	123	1%
Exposure to blood products only	18	<1%	3	<1%	21	<1%
Undetermined	405	5%	120	5%	525	5%
TOTAL	8,150	100%	2,395	100%	10,545	100%
SUMMARIZED EXPOSURE CATEGORIES*						
(NOT Mutually Exclusive: one case may be represented in multiple categories)						
Any MSM	5,772	71%	N/A	--	5,772	55%
Behaviorally bisexual men	2,095	26%	N/A	--	2,095	20%
Any heterosexual contact	3,851	47%	2,170	91%	6,021	57%
Any IDU	897	11%	421	18%	1,318	12%

*See page vi for descriptions of risk transmission and exposure categories.

§ Risk transmission categories are grouped based on hierarchical categories determined by the CDC. Any one person with multiple risks is only represented in the highest category, with the exception of MSM/IDU (based on the hierarchical algorithm).

† Exposure categories are mutually exclusive and grouped to allow all possible combinations of exposures that any one person may have. NOTE: Heterosexual contact (HC) in exposure categories includes males and females who had heterosexual contact, regardless of what is known about their partners' risk or HIV status.

* Summarized exposure categories are NOT mutually exclusive, i.e. a case may be represented in multiple categories. These summarized categories are meant to give a broader picture of exposure and will NOT add up to the total number of persons living with HIV infection.

Table 3: Sex, race, and risk among HIV infection cases currently living in the Detroit Metro Area, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1,865	77%	3,201	62%	172	60%	172	63%	5,410	66%
Injection drug use (IDU)	83	3%	407	8%	27	9%	18	7%	535	7%
MSM/IDU	123	5%	209	4%	8	3%	22	8%	362	4%
Blood products	24	1%	5	<1%	2	1%	1	<1%	32	<1%
Heterosexual contact (HCFR)	66	3%	311	6%	18	6%	6	2%	401	5%
Perinatal	7	<1%	55	1%	3	1%	6	2%	71	1%
Undetermined	248	10%	989	19%	55	19%	47	17%	1,339	16%
Male Subtotal	2,416	30%	5,177	64%	285	3%	272	3%	8,150	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	70	23%	323	17%	16	18%	12	17%	421	18%
Blood products	5	2%	2	<1%	1	1%	0	0%	8	<1%
Heterosexual contact (HCM)	184	60%	1,216	63%	60	67%	45	64%	1,505	63%
Perinatal	2	1%	43	2%	4	4%	3	4%	52	2%
Undetermined	47	15%	344	18%	8	9%	10	14%	409	17%
Female Subtotal	308	13%	1,928	81%	89	4%	70	3%	2,395	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1,865	68%	3,201	45%	172	46%	172	50%	5,410	51%
Injection drug use (IDU)	153	6%	730	10%	43	11%	30	9%	956	9%
MSM/IDU	123	5%	209	3%	8	2%	22	6%	362	3%
Blood products	29	1%	7	<1%	3	1%	1	<1%	40	<1%
Heterosexual contact (HC)	250	9%	1,527	21%	78	21%	51	15%	1,906	18%
HCFR (male)	66	2%	311	4%	18	5%	6	2%	401	4%
HCM (female)	184	7%	1,216	17%	60	16%	45	13%	1,505	14%
Perinatal	9	<1%	98	1%	7	2%	9	3%	123	1%
Undetermined	295	11%	1,333	19%	63	17%	57	17%	1,748	17%
RACE ALL	2,724	26%	7,105	67%	374	4%	342	3%	10,545	100%

Table 4: Sex, race, and age at HIV diagnosis among HIV infection cases currently living in the Detroit Metro Area, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	13	1%	56	1%	3	1%	6	2%	78	1%
13 - 19 years	39	2%	416	8%	13	5%	11	4%	479	6%
20 - 24 years	207	9%	984	19%	47	16%	47	17%	1,285	16%
25 - 29 years	388	16%	841	16%	58	20%	55	20%	1,342	16%
30 - 39 years	915	38%	1,512	29%	88	31%	87	32%	2,602	32%
40 - 49 years	600	25%	934	18%	44	15%	55	20%	1,633	20%
50 - 59 years	204	8%	364	7%	20	7%	9	3%	597	7%
60 years and over	50	2%	68	1%	12	4%	2	1%	132	2%
Unknown	0	0%	2	<1%	0	0%	0	0%	2	<1%
Male Subtotal	2,416	30%	5,177	64%	285	3%	272	3%	8,150	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	3	1%	44	2%	5	6%	3	4%	55	2%
13 - 19 years	20	6%	101	5%	6	7%	2	3%	129	5%
20 - 24 years	39	13%	244	13%	11	12%	4	6%	298	12%
25 - 29 years	58	19%	299	16%	11	12%	13	19%	381	16%
30 - 39 years	94	31%	644	33%	35	39%	27	39%	800	33%
40 - 49 years	62	20%	407	21%	15	17%	14	20%	498	21%
50 - 59 years	26	8%	148	8%	5	6%	6	9%	185	8%
60 years and over	5	2%	41	2%	1	1%	1	1%	48	2%
Unknown	1	<1%	0	0%	0	0%	0	0%	1	<1%
Female Subtotal	308	13%	1,928	81%	89	4%	70	3%	2,395	100%

ALL	White		Black		Hispanic		Other or unknown		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	16	1%	100	1%	8	2%	9	3%	133	1%
13 - 19 years	59	2%	517	7%	19	5%	13	4%	608	6%
20 - 24 years	246	9%	1,228	17%	58	16%	51	15%	1,583	15%
25 - 29 years	446	16%	1,140	16%	69	18%	68	20%	1,723	16%
30 - 39 years	1,009	37%	2,156	30%	123	33%	114	33%	3,402	32%
40 - 49 years	662	24%	1,341	19%	59	16%	69	20%	2,131	20%
50 - 59 years	230	8%	512	7%	25	7%	15	4%	782	7%
60 years and over	55	2%	109	2%	13	3%	3	1%	180	2%
Unknown	1	<1%	2	<1%	0	0%	0	0%	3	<1%
RACE ALL	2,724	26%	7,105	67%	374	4%	342	3%	10,545	100%

Table 5: Sex, risk, and age at HIV dDiagnosis among HIV infection cases currently living in the Detroit Metro Area, 2014

MALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	395	82%	1,060	82%	1,007	75%	1,728	66%	885	54%	280	47%	55	42%	5,410	66%
Injection drug use	0	0%	3	1%	11	1%	38	3%	187	7%	209	13%	75	13%	11	8%	534	7%
MSM/IDU	0	0%	10	2%	32	2%	65	5%	145	6%	86	5%	24	4%	0	0%	362	4%
Blood products	5	6%	9	2%	5	<1%	5	<1%	5	<1%	3	<1%	0	0%	0	0%	32	<1%
Heterosexual contact (HCFR)	0	0%	5	1%	26	2%	54	4%	151	6%	108	7%	43	7%	14	11%	401	5%
Perinatal	68	87%	3	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	71	1%
Undetermined	5	6%	54	11%	151	12%	173	13%	386	15%	342	21%	175	29%	52	39%	1,338	16%
Male Subtotal*	78	1%	479	6%	1,285	16%	1,342	16%	2,602	32%	1,633	20%	597	7%	132	2%	8,148	100%
FEMALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use	0	0%	7	5%	32	11%	53	14%	169	21%	121	24%	32	17%	7	15%	421	18%
Blood products	0	0%	2	2%	1	<1%	0	0%	2	<1%	1	<1%	0	0%	2	4%	8	<1%
Heterosexual contact (HCM)	0	0%	98	76%	206	69%	263	69%	502	63%	288	58%	121	65%	27	56%	1,505	63%
Perinatal	52	95%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	52	2%
Undetermined	3	5%	22	17%	59	20%	65	17%	127	16%	88	18%	32	17%	12	25%	408	17%
Female Subtotal*	55	2%	129	5%	298	12%	381	16%	800	33%	498	21%	185	8%	48	2%	2,394	100%
ALL	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	395	65%	1,060	67%	1,007	58%	1,728	51%	885	42%	280	36%	55	31%	5,410	51%
Injection drug use	0	0%	10	2%	43	3%	91	5%	356	10%	330	15%	107	14%	18	10%	955	9%
MSM/IDU	0	0%	10	2%	32	2%	65	4%	145	4%	86	4%	24	3%	0	0%	362	3%
Blood products	5	4%	11	2%	6	<1%	5	<1%	7	<1%	4	<1%	0	0%	2	1%	40	<1%
Heterosexual contact (HC)	0	0%	103	17%	232	15%	317	18%	653	19%	396	19%	164	21%	41	23%	1,906	18%
HCFR (male)	0	0%	5	1%	26	2%	54	3%	151	4%	108	5%	43	5%	14	8%	401	4%
HCM (female)	0	0%	98	16%	206	13%	263	15%	502	15%	288	14%	121	15%	27	15%	1,505	14%
Perinatal	120	90%	3	<1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	123	1%
Undetermined	8	6%	76	13%	210	13%	238	14%	513	15%	430	20%	207	26%	64	36%	1,746	17%
AGE TOTAL *	133	1%	608	6%	1,583	15%	1,723	16%	3,402	32%	2,131	20%	782	7%	180	2%	10,542	100%

* Not included in this table are the following cases with unknown age at diagnosis: one male IDU, one male with unknown risk, and one female with unknown risk.

Table 6: Gonorrhea, syphilis, and chlamydia cases by sex, race, and age group, Detroit Metro Area, 2013

	<i>Gonorrhea</i>			<i>P&S syphilis*</i>			<i>Chlamydia</i>			<i>CENSUS 2012 ESTIMATES</i>	
	Num	Percent	Rate [^]	Num	Percent	Rate [^]	Num	Percent	Rate [^]	Num	Percent
<i>RACE/ ETHNICITY</i>											
White	616	9%	21.5	82	20%	2.9	3,240	14%	113.1	2,864,772	67%
Black	3,516	53%	361.4	307	76%	31.6	9,876	43%	1015.2	972,770	23%
Hispanic	55	1%	31.2	10	2%	5.7	281	1%	159.3	176,407	4%
Other/multi	97	1%	39.4	1	<1%	0.4	381	2%	154.7	246,321	6%
Unknown race	2,300	35%	N/A	4	1%	N/A	9,007	40%	N/A	N/A	N/A
<i>SEX & RACE</i>											
Male	2,943	45%	142.6	375	93%	18.2	6,407	28%	310.4	2,064,378	48%
<i>White male</i>	283	4%	20.1	78	19%	5.5	822	4%	58.4	1,406,602	33%
<i>Black male</i>	1,625	25%	362.6	285	71%	63.6	3,083	14%	687.9	448,159	11%
<i>Hispanic male</i>	25	<1%	28.0	9	2%	10.1	103	<1%	115.5	89,144	2%
<i>Other male</i>	39	1%	32.4	2	<1%	1.7	111	<1%	92.1	120,473	3%
<i>Unknown male</i>	971	15%	N/A	1	<1%	N/A	2,288	10%	N/A	N/A	N/A
Female	3,640	55%	165.8	27	7%	1.2	16,343	72%	744.3	2,195,892	52%
<i>White female</i>	333	5%	22.8	4	1%	0.3	2,417	11%	165.8	1,458,170	34%
<i>Black female</i>	1,891	29%	360.5	22	5%	4.2	6,790	30%	1294.3	524,611	12%
<i>Hispanic female</i>	30	<1%	34.4	1	<1%	1.1	178	1%	204.0	87,263	2%
<i>Other female</i>	58	1%	46.1	0	0%	0.0	269	1%	213.7	125,848	3%
<i>Unknown female</i>	1,328	20%	N/A	0	0%	N/A	6,689	29%	N/A	N/A	N/A
Unknown sex - all races	1	<1%	N/A	0	0%	N/A	34	<1%	N/A	N/A	N/A
<i>Age</i>											
0-4 years	5	<1%	2.0	0	0%	0.0	17	<1%	6.8	250,958	6%
5-9 years	1	<1%	0.4	0	0%	0.0	2	<1%	0.7	270,161	6%
10-14 years	56	1%	19.2	0	0%	0.0	311	1%	106.5	292,014	7%
15-19 years	1,671	25%	573.5	30	7%	10.3	7,833	34%	2688.4	291,367	7%
20-24 years	2,436	37%	885.7	126	31%	45.8	9,068	40%	3296.9	275,050	6%
25-29 years	1,090	17%	429.2	81	20%	31.9	3,000	13%	1181.4	253,935	6%
30-34 years	493	7%	191.0	49	12%	19.0	1,150	5%	445.6	258,084	6%
35-39 years	326	5%	126.5	40	10%	15.5	607	3%	235.5	257,778	6%
40-44 years	207	3%	68.8	28	7%	9.3	332	1%	110.4	300,775	7%
45-54 years	190	3%	29.4	38	9%	5.9	259	1%	40.0	647,303	15%
55-64 years	65	1%	11.5	7	2%	1.2	69	<1%	12.2	566,751	13%
65 and over	17	<1%	2.9	3	1%	0.5	14	<1%	2.3	596,094	14%
Unknown age	27	<1%	N/A	0	0%	N/A	122	1%	N/A	N/A	N/A
<i>Total</i>	6,584	100%	154.5	402	100%	9.4	22,784	100%	534.8	4,260,270	100%

* P&S: Primary and secondary syphilis.

[^] Rate per 100,000 population.

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2014 Profile of HIV in Out-State Michigan

Summary of HIV Epidemic in Out-State Michigan

Data from enhanced HIV/AIDS Reporting System (eHARS)

How many cases?

The Michigan Department of Community Health (MDCH) estimates that there are 7,360 persons currently living with HIV in Out-State Michigan, of whom 5,758 were reported as of January 1, 2014 (table 1, page 217). Out-State Michigan is composed of the 77 counties outside of the six Detroit Metro Area (DMA) counties. The reported number of persons living with HIV infection in Out-State Michigan is increasing, because there are more new HIV diagnoses than deaths each year.



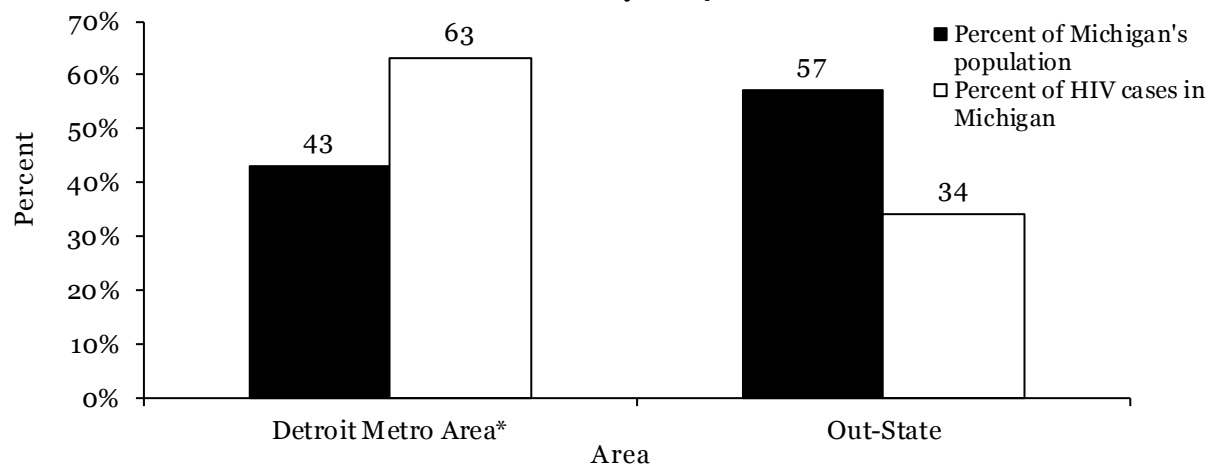
How are the cases geographically distributed?

HIV infections are distributed disproportionately in Michigan. Thirty-four percent of those living with HIV reside in Out-State Michigan, but Out-State Michigan has 57 percent of the general population (figure 1). Thus, Out-State Michigan has fewer cases than would be expected based on its population. Kent County has the highest number and proportion of reported cases in Out-State Michigan (1,058 cases, 18 percent; table 2, pages 218-219). The 83 counties of Michigan are divided into 45 local health departments (LHDs), which are classified as high- or low-prevalence (please see page 18 of the statewide chapter for more information). In Out-State Michigan, Washtenaw, Ingham, Kent, Berrien, Kalamazoo, Saginaw, Genesee, Calhoun, Jackson, Allegan, and Muskegon counties are considered high prevalence counties.

Out-State Trends:

In the statewide and DMA chapters of this document, trends in new HIV diagnoses over time were evaluated by estimating the number of persons newly diagnosed with HIV each year and determining if there were statistically significant changes. The number of newly diagnosed cases in Out-State Michigan was insufficient to apply the estimation methodology used to evaluate trends. Therefore, figures in this chapter that present trends in new HIV diagnoses are created using unadjusted numbers. **Trends in the statewide and DMA chapters should not be compared with the numbers in the Out-State chapter.**

Figure 1: Michigan living HIV infection cases and population by area, January 2014



*Detroit Metro Area includes the City of Detroit, Lapeer County, Macomb County, Monroe County, Oakland County, St. Clair County, and Wayne County.

2014 Profile of HIV in Out-State Michigan

Recommendations: Ranking of Behavioral Groups

Data from enhanced HIV/AIDS Reporting System (eHARS)

To assist in prioritizing prevention activities, the MDCH HIV, Body Art, Tuberculosis, Viral Hepatitis Section ranks the three behavioral groups most at risk for HIV infection in Out-State Michigan. The guiding question used in this process is, “In which populations can strategies prevent the most infections from occurring?” Effectively reducing transmission in populations where most of the HIV transmission is taking place will have the greatest impact on the overall epidemic. The percentage of cases for each behavioral group were used to determine the ranked order of the following three behavioral groups: MSM, heterosexuals, and IDU.

- **Men who have sex with men (MSM)*:** MSM make up 59 percent of all reported cases of HIV currently living in Out-State Michigan (3,369 out of 5,758 cases; table 1, page 217). The MSM behavioral group continues to be the most affected behavioral group in Out-State Michigan.
- **Heterosexuals:** Heterosexual cases constitute 19 percent of the total number of reported cases (1,077 out of 5,758 cases) currently living in Out-State Michigan (table 1). This behavioral group is comprised of males who had sex with females known to be at risk for HIV (heterosexual contact with female with known risk, HCFR) and females who had sex with males, regardless of what is known about the male partners’ risk behaviors (heterosexual contact with male, HCM). HCFR is more completely defined as males who had sex with females known to be IDU, recipients of HIV-infected blood products, or HIV-positive persons. See the glossary in appendix A, page 233, for further description of the heterosexual risk transmission category. Seventy-nine percent of all heterosexual cases in Out-State Michigan are among females.
- **Injection drug users (IDU)*:** Of all reported cases of HIV currently living in Out-State Michigan, 11 percent are IDU (660 out of 5,758 cases; table 1).

**Both MSM and IDU numbers and percentages include persons with a dual risk of MSM/IDU.*

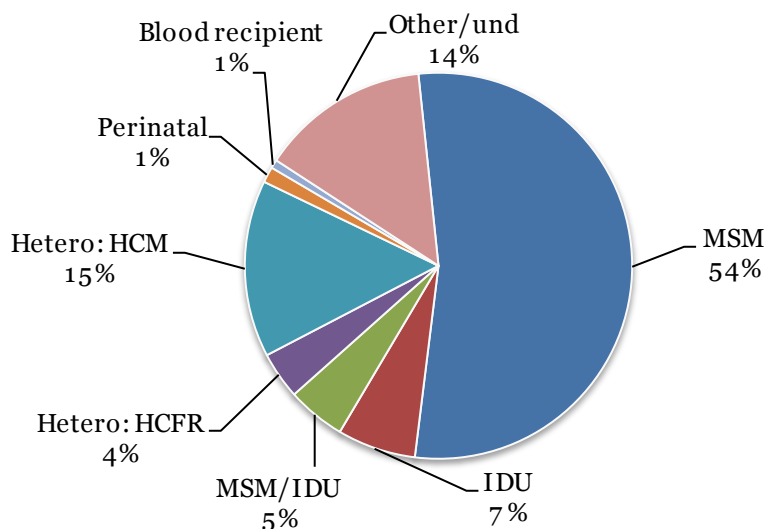
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Distribution of Living HIV Cases by Risk Transmission Category

Data from enhanced HIV/AIDS Reporting System (eHARS)

Although case reporting includes ascertainment of multiple behaviors associated with HIV transmission, current surveillance methods cannot determine the specific route of HIV transmission in persons who have engaged in more than one risk behavior. For the purposes of analysis and interpretation, the Centers for Disease Control and Prevention created a risk hierarchy in the 1980s to classify people into risk transmission categories. The hierarchy is intended to account for the efficiency of HIV transmission associated with each behavior, along with the probability of exposure to a HIV-positive person within the population. The adult/adolescent categories, in order, are as follows: (1) men who have sex with men (MSM); (2) injection drug users (IDU); (3) men who have sex with men and inject drugs (MSM/IDU); (4) hemophilia/coagulation disorders; (5) heterosexual contact (HC); (6) receipt of HIV-infected blood or blood components; and (7) no identified risk (NIR). Figure 2 shows the distribution of risk for all persons currently living with HIV in Out-State Michigan as of January 2014 (also see tables 1 and 3, pages 217 and 220).

Figure 2: HIV infection cases currently living in Out-State Michigan by risk transmission category, January 2014 (N = 5,758)



- Over half (59 percent) of persons currently living with HIV in Out-State Michigan are men who have sex with men (MSM), including five percent who also inject drugs (MSM/IDU).
- Nineteen percent have a risk of heterosexual sex; 15 percent are females who had sex with males (HCM), and four percent of whom are males who had sex with females with known risk (HCFR).
- Eleven percent are injection drug users (IDU), including five percent who are also MSM (MSM/IDU).
- Two percent are other known risk, including perinatal transmission and receipt of HIV-infected blood products.
- Fourteen percent have other or undetermined risk, which includes males who had sex with females with unknown risk.

2014 Profile of HIV in Out-State Michigan

Distribution of Living HIV Cases by Exposure Category

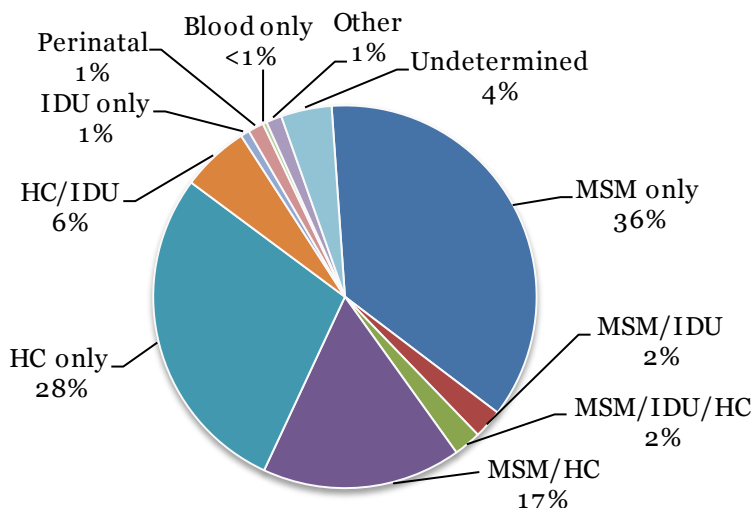
Data from enhanced HIV/AIDS Reporting System (eHARS)

When the risk transmission categories were created, the hierarchy was based on what was known at the beginning of the epidemic about how HIV was transmitted, when almost all cases were among males and there was little documented heterosexual transmission. Since then, the hierarchy has not changed, even though our understanding of the most efficient HIV transmission routes has. Additionally, concerns have been raised that use of hierarchical categories masks the identification of multiple risks that a person may have. For this reason, Michigan also presents exposure categories, which convey all known modes of HIV exposure. Like the traditional risk transmission categories, the exposure categories are mutually exclusive, meaning that each case is included in only one category. Exposure categories, however, allow readers to see all the reported ways in which a person may have been exposed to HIV without stating definitively how the individual was infected. Please see the glossary in appendix A (page 233) for more detailed definitions of exposure categories.

It is important to note that, unlike the risk transmission categories, the exposure categories count males in the heterosexual contact (HC) category regardless of what is known about their female partners' risk behaviors or HIV status. This results in an increased proportion of heterosexual cases.

Figure 3 shows the distribution of exposures among HIV-positive persons currently living in Out-State Michigan as of January 2014 (also see table 3, page 220).

Figure 3: HIV infection cases currently living in Out-State Michigan by exposure category, January 2014 (N = 5,758)



- While over half of all prevalent HIV cases are classified as men who have sex with men (MSM) in the risk transmission hierarchy, 23 percent reported additional exposures. Nineteen percent reported ever having sex with a female (MSM/HC and MSM/HC/IDU).
- Almost all injection drug users (IDU) reported additional risk behaviors, including six percent reporting heterosexual contact (HC/IDU) and two percent reporting both heterosexual contact and male-male sex (MSM/IDU/HC).
- 'Other' are other combinations of risk too numerous to be displayed (HC/Blood, HC/IDU/Blood, MSM/Blood, MSM/HC/Blood, MSM/IDU/HC/Blood, MSM/IDU/Blood, and IDU/Blood).

2014 Profile of HIV in Out-State Michigan

Distribution of Living HIV Cases by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figures 4 and 5 show the impact of the HIV epidemic on six race/sex groups in Out-State Michigan. These data can also be found on table 1, page 217.

Figure 4: Estimated prevalence of persons living with HIV in Out-State Michigan by race and sex, January 2014

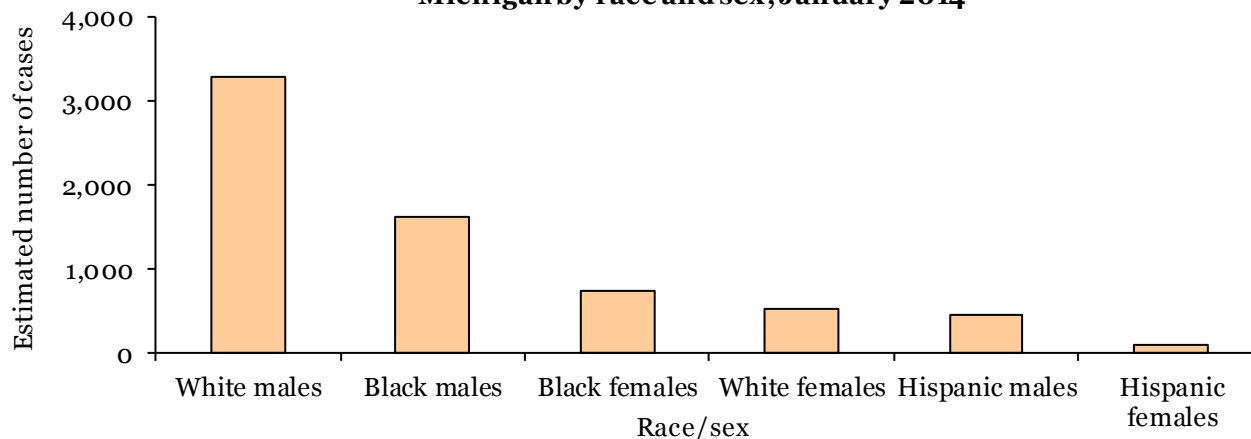
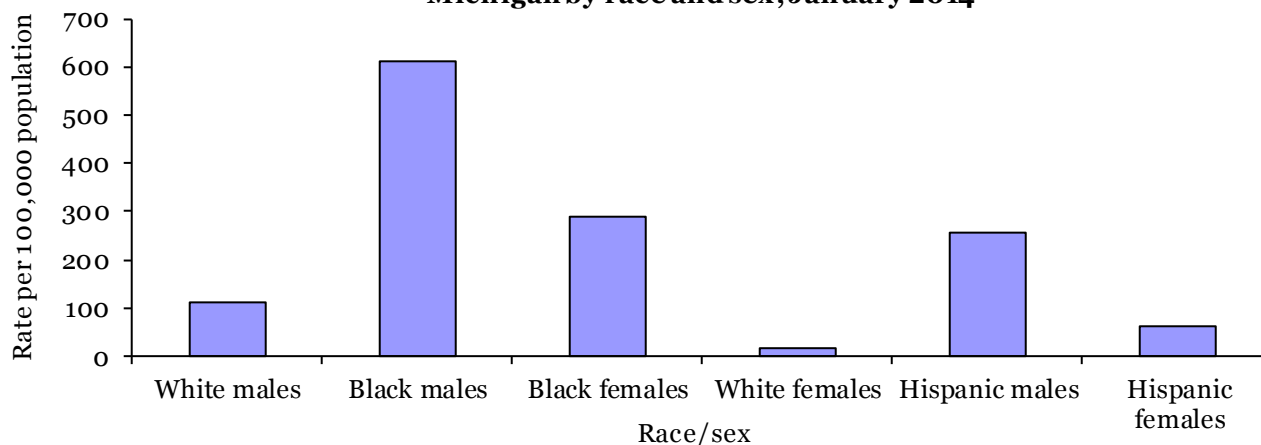


Figure 5: Reported prevalence rate of persons living with HIV in Out-State Michigan by race and sex, January 2014



- Black males have the highest rate of HIV per 100,000 (611) and the second highest estimated (see page 18 of statewide chapter for explanation of prevalence estimates) number (1,640) of cases. This high rate is five and a half times higher than the rate among white males. This means the impact of the epidemic is greatest on this demographic group.
- Black females have the second highest rate (290 per 100,000) and the third highest estimated number (750) of cases of HIV. The rate is 16 times that of white females.
- Hispanic males have the third highest rate (257) and the fifth highest estimated number (470) of cases. This indicates the impact of the epidemic is high on a relatively small demographic group.
- White males have the fourth highest rate (112) but the highest estimated number (3,290) of cases.
- Hispanic females have the fifth highest rate (63) and the lowest estimated number (110) of HIV cases.
- White females have the lowest rate (18) and the fourth highest estimated number (540) of HIV cases.

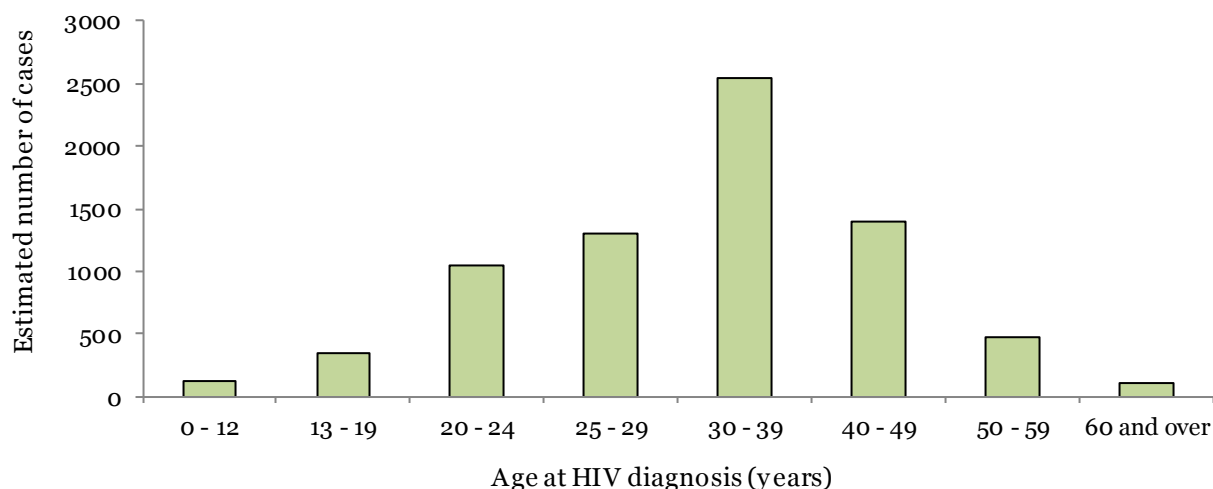
2014 Profile of HIV in Out-State Michigan

Distribution of Living HIV Cases by Age at HIV Diagnosis

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 6 shows the breakdown of prevalent cases in Out-State Michigan by age at HIV diagnosis. Data can also be found on table 1, page 217.

Figure 6: Estimated prevalence of persons living with HIV in Out-State Michigan by age at diagnosis, January 2014



- The majority of all persons living with HIV (an estimated 2,550) were 30-39 years old at the time of diagnosis.
- The next highest number of estimated cases is among persons 40-49 years at diagnosis, followed closely by 25-29 year olds (1,400 and 1,310, respectively).
- The smallest number of estimated cases is among persons diagnosed at 60 years and older and those diagnosed between the ages of 0 and 12 years (110 and 130, respectively).
- There were an estimated 10 cases with unknown age at diagnosis not included in this figure.

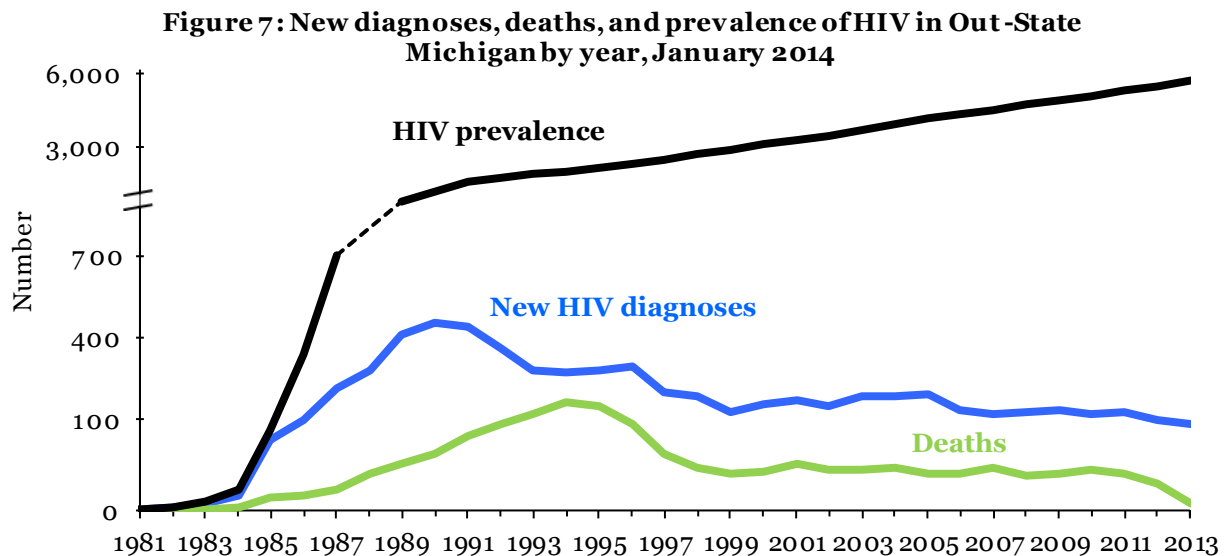
2014 Profile of HIV in Out-State Michigan

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

New diagnoses, deaths and prevalence of HIV by year:

The unadjusted number of new HIV diagnoses, number of deaths among HIV-positive persons, and HIV prevalence in Out-State Michigan are presented in figure 7. The number of HIV diagnoses reflects reported cases. These data were not adjusted for reporting delay as they were in the statewide and Detroit Metro Area (DMA) chapters of this document, so the numbers should not be compared. The decreases in new diagnoses seen in the most recent years (11 percent between 2008 and 2012) will likely level out a bit as more cases diagnosed during those years are reported. As new diagnoses of HIV remain relatively stable and the number of deaths among HIV-positive persons decrease, HIV prevalence continues to rise.



New diagnoses by risk, 2008-2012:

Figure 8 shows the number of persons newly diagnosed in Out-State Michigan by risk for 2008-2012. Men who have sex with men (MSM) (including those that are MSM/IDU) make up the largest number of new diagnoses, and the number did not change appreciably between 2008 and 2012 (157 cases vs. 161 cases, respectively). During this same time period, cases among heterosexuals decreased from 46 to 34 cases (a 26 percent decrease). The number of injection drug users (IDU) (including those that are MSM/IDU) are low in Out-State Michigan, but cases among these groups also decreased between 2008 and 2012. The other/undetermined risk category is mostly composed of persons for whom risk was not reported or has not yet been determined. This number is often highest for more recent years, as it takes time to gather complete information on risk behaviors, however it was the lowest of all years in 2012.

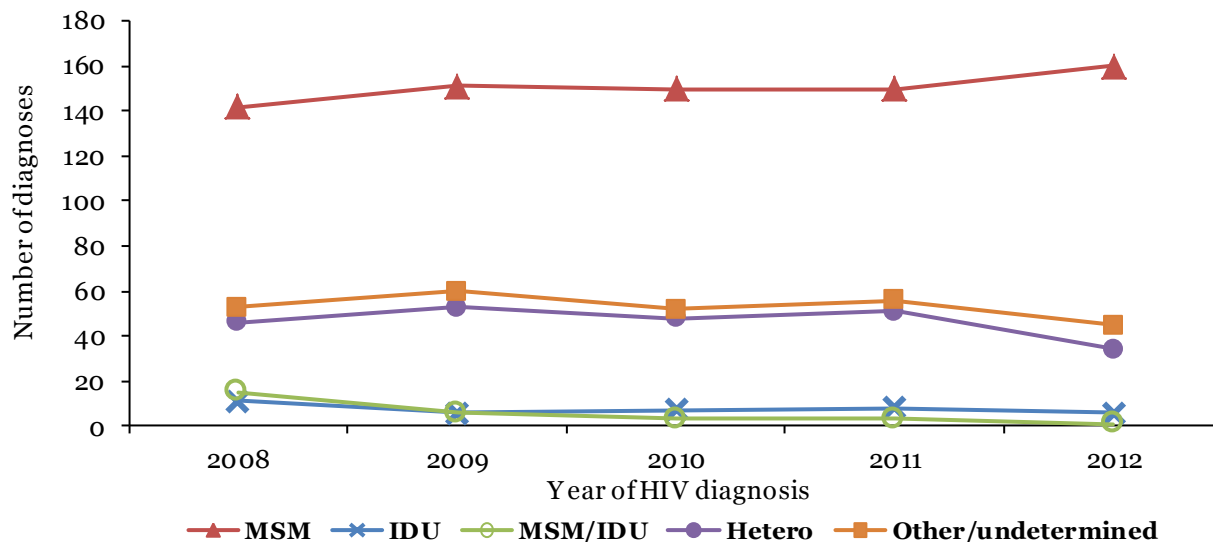
It is important to note that, due to small numbers, these data could not be adjusted to account for reporting delay. Therefore, it is not possible to know if these decreases were statistically significant.

2014 Profile of HIV in Out-State Michigan

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

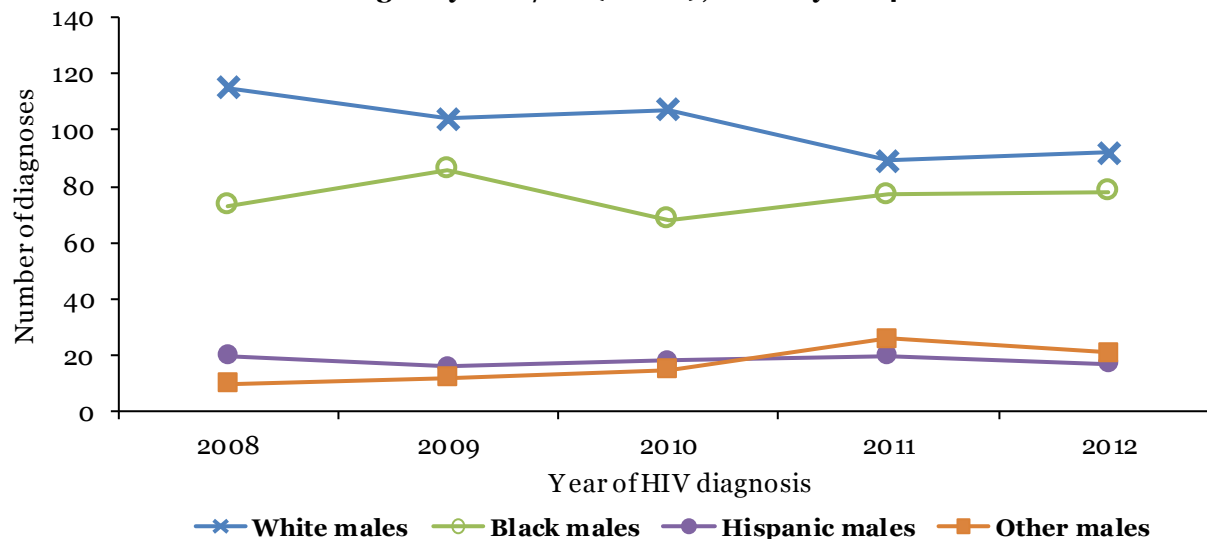
Figure 8: Number of new HIV diagnoses 2008-2012 in Out-State Michigan by risk transmission category, January 2014



New diagnoses by race and sex, 2008-2012:

Figures 9 and 10 show the number of new HIV diagnoses between 2008-2012 by race for males and females, respectively. The greatest number of new diagnoses are among white males (92 in 2012), followed by black males (78 in 2012). The number of diagnoses among black males has had the most variation of any male racial group, rising from 73 new diagnoses in 2008 to a high of 86 in 2009 (a 18 percent increase), and dropping to a low of 68 in 2010 (a 21 percent decrease) before rising to 78 in 2012 (an increase of 15 percent). The number of new cases among Hispanic males and males of other race has had little variation, mostly remaining around 20 or below new diagnoses a year.

Figure 9: Number of new HIV diagnoses 2008-2012 in Out-State Michigan by race/sex (males), January 2014



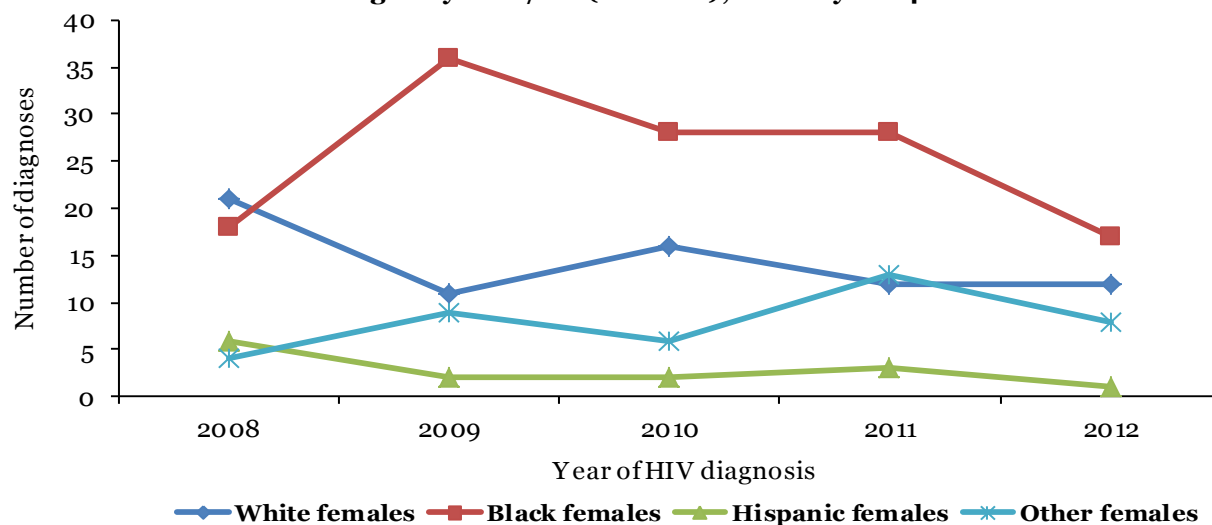
2014 Profile of HIV in Out-State Michigan

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

Similar to males, the largest variation in the number of new diagnoses for females is among black females (figure 10). The number of diagnoses among this group rose from 18 in 2008 to 36 in 2009, an increase of 100 percent. The number then decreased to 28, a 22 percent decrease, in 2010 before coming back down to 17 in 2012. There was also some variability among white females, with the number decreasing 48 percent between 2008 and 2009 (21 vs. 11 diagnoses, respectively) before increasing slightly in 2010 (16 new diagnoses), and finally decreasing again to 12 new diagnoses in 2012. The number of diagnoses among Hispanic females and females of other race are consistently ten or less, with the exception of 13 new diagnoses in 2011 for females of other race.

Figure 10: Number of new HIV diagnoses 2008-2012 in Out-State Michigan by race/sex (females), January 2014



Deaths among HIV-positive persons by race and sex:

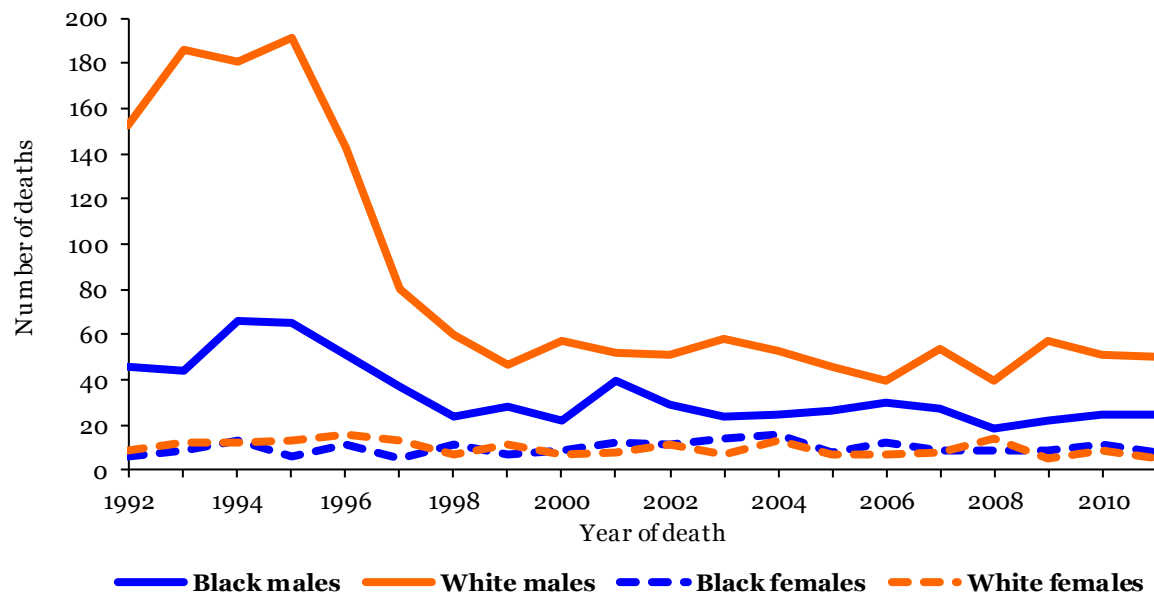
Figure 11 shows the number of HIV-positive Out-State Michigan residents reported as deceased by a local health department, the department of vital records (via a data match, death transcript, or death certificate), the National Death Index, or an alternate source. The number of deaths changed in all race/sex groups from the beginning of the epidemic through approximately 1994-1995 except among black females, who had zero percent change during that time period. The number of deaths then decreased markedly between 1995 and 1998 among all groups (except for black females) and then were relatively stable until 2001. It should be noted that the percent decrease in deaths among white males (73 percent) between 1995 and 2001 was more pronounced than the percent decrease among black males (38 percent). Additionally, there was a 38 percent decrease in deaths among white females compared to a 100 percent increase among black females. Between 2001 and 2011, the number of deaths fell among all groups. The percent decrease among black males (38 percent) was larger than the change among white males (4 percent). The change among black females (33 percent) was lower than the change among white females (38 percent; data not shown in tables).

2014 Profile of HIV in Out-State Michigan

Trends in HIV Data

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 11: HIV deaths by race/sex in Out-State Michigan, January 2014



2014 Profile of HIV in Out-State Michigan

Ranked Behavioral Group: MSM

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Men who have sex with men (MSM) are the number one ranked behavioral group in Out-State Michigan for HIV infection. MSM remain the single largest behavioral group affected by the epidemic and account for over half (59 percent) of all reported HIV-positive persons, including MSM/IDU. MDCH estimates that there are approximately 4,310 MSM living with HIV infection in Out-State Michigan. This includes an estimated 360 HIV-positive males whose risk is a combination of having sex with other males and injecting drugs (table 1, page 217).

Race/ethnicity:

MSM account for most HIV infections among males in Out-State Michigan for all racial and ethnic groups. When considering reported cases for MSM and MSM/IDU of all races (3,369 reported cases), white males comprise 63 percent of males in this combined category (2,129 cases); black males account for 23 percent (764 cases); and Hispanic males account for seven percent (245 cases; table 4, page 221).

Age at HIV diagnosis:

Among those reporting male-male sex (including MSM/IDU), the highest proportion of all living HIV infection cases were 30-39 years old at diagnosis (36 percent). MSM is the predominant mode of transmission for males ages 13 and up; male-male sex accounts for 78 percent and 85 percent of infections among males ages 13-19 years and 20-24 years at diagnosis, respectively (table 6, page 223).

Late diagnoses:

Of the 5,758 persons living with HIV infection in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 HIV infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). MSM and MSM/IDU make up 59 percent (1,807 cases) of persons living with stage 3 infection, of whom 41 percent (732 cases) had late diagnoses (table 1). This suggests that MSM may get tested for HIV later in the course of their infection.

Geographic distribution:

Just over one third (36 percent) of HIV-positive MSM statewide reside in Out-State Michigan, which is similar to the proportion of all cases that reside in Out-State Michigan. Within high prevalence counties (Allegan, Berrien, Calhoun, Genesee, Ingham, Jackson, Kalamazoo, Kent, Muskegon, Saginaw, and Washtenaw), MSM comprise 58 percent of persons living with HIV infection (including MSM/IDU). In low prevalence counties, MSM comprise 60 percent of all cases (data not shown in tables; see 2 on page 18 of the statewide chapter for high/low prevalence county classification).

Conclusions:

MSM continue to make up the majority of new diagnoses and prevalent HIV infection cases in Out-State Michigan. The average number of new HIV diagnoses among MSM between 2008 and 2012 was 156, and there was little change during this time period (figure 8). Data on new diagnoses was not adjusted for reporting delay.

2014 Profile of HIV in Out-State Michigan

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Heterosexual risk is the second highest ranked behavioral group in Out-State Michigan. Persons with heterosexual risk account for 19 percent of reported HIV infection cases. MDCH estimates that 1,380 persons living with HIV infection in Out-State Michigan have a risk factor of heterosexual contact (HC). Heterosexual contact is comprised of heterosexual contact with female with known risk (HCFR) and heterosexual contact with male (HCM). HCFR is only applicable to males and constitutes persons who had sex with females with known risk factors for HIV, including IDU, recipients of HIV-infected blood products, and/or HIV-positive individuals with unknown risk. HCM is composed of all females whose only reported risk is sex with males, regardless of what is known about the male partners' risk factors. Currently there are an estimated 290 HIV-positive persons who are HCFR (males) and 1,090 persons who are HCM (females) (table 1, page 217).

Race/ethnicity and sex:

Among the 1,077 persons currently living with HIV infection in Out-State Michigan with a risk of heterosexual contact, 79 percent are females and 21 percent are males. While females account for 21 percent of all reported HIV infection cases in Out-State Michigan, they have consistently accounted for over three quarters of cases with heterosexual risk. The overall proportion of males with heterosexual risk is four percent (table 3, page 220). However, many males report heterosexual contact in addition to other risk factors, such as male-male sex (MSM) or injection drug use (IDU). See table 3 for data on exposure categories, which represent all reported modes of HIV exposure.

Just about half of all heterosexual cases of HIV infection in Out-State Michigan are among black persons (49 percent), largely driven by the high number of black females with heterosexual risk. Seventy percent of black female cases report heterosexual risk. Sixty-nine percent of white female cases, 75 percent of Hispanic female cases, and 69 percent of female cases of other or unknown race have heterosexual risk. Although the proportion of HIV-positive males with heterosexual risk is low, nine percent of black males and eight percent of Hispanic males have heterosexual risk compared to three percent of white males (table 4, page 221).

Expanded risk:

As the majority of cases with heterosexual risk are female, it is useful to examine this expanded risk among different female subgroups. Figures 12 and 13 on the following page show detailed risk information for black females and white females, respectively. While the risk distribution between black females and white females is similar, of note is that white females more frequently report having partners with known risks (such as IDU or HIV-positive persons). Black females have a higher proportion of heterosexual contact without specific risk factors indicated. They also have a higher proportion of undetermined risk (14 percent vs. 11 percent in white females).

2014 Profile of HIV in Out-State Michigan

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 12: Black females living with HIV infection in Out-State Michigan by expanded risk transmission category, January 2014 (N = 590)

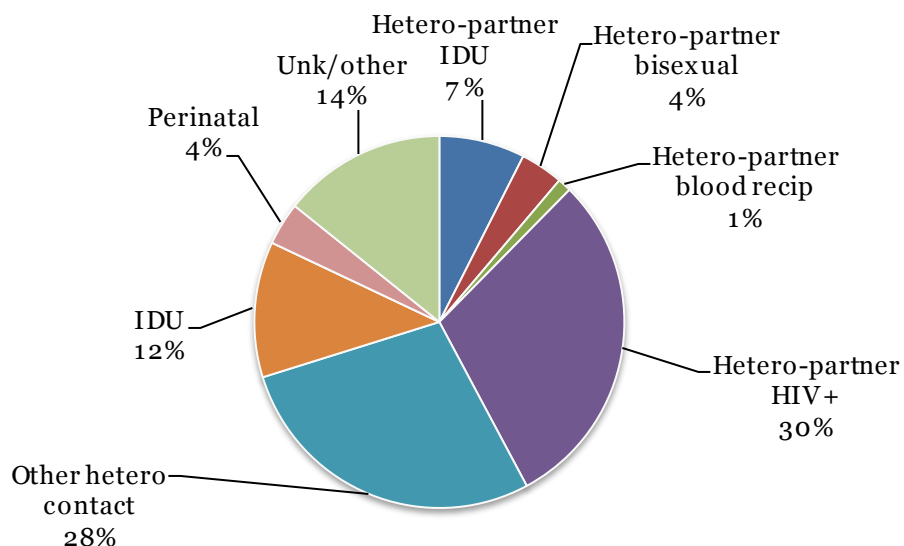
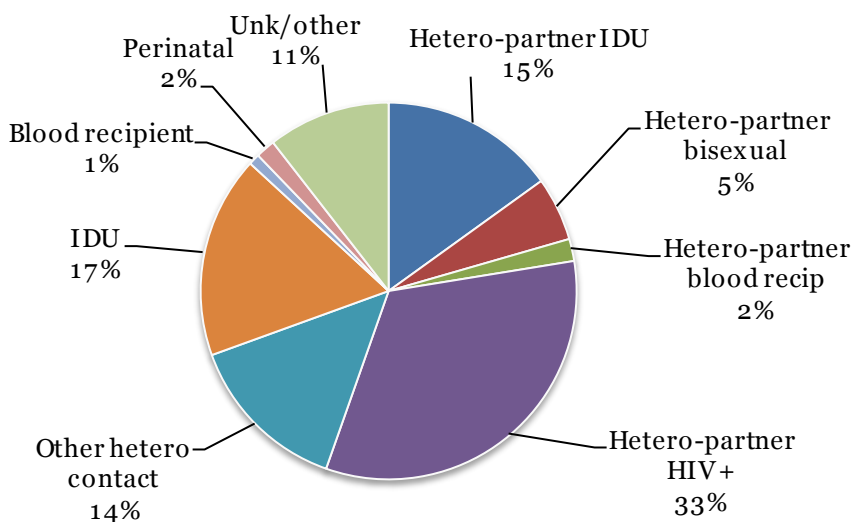


Figure 13: White females living with HIV infection in Out-State Michigan by expanded risk transmission category, January 2014 (N = 419)



2014 Profile of HIV in Out-State Michigan

Ranked Behavioral Group: Heterosexuals

Data from enhanced HIV/AIDS Reporting System (eHARS)

Age at HIV diagnosis:

Heterosexual contact is the predominant reported risk factor for females who were 13 years of age and older at the time of HIV diagnosis in Out-State Michigan. Over three-quarters (82 percent) of those 13-19 years at the time of diagnosis report heterosexual sex. As age increases, the proportion of HIV-positive females with heterosexual risk decreases, but it remains over four times as high as injection drug use (IDU) for all females 13 years and older at diagnosis, with the exception of those females 60 years and older (table 6, page 223).

Among HIV-positive males, the proportion with a risk factor of heterosexual sex is low overall (4 percent). This ranges from two percent among males 13-19 years at diagnosis to seven percent among those 50-59 years at diagnosis (table 6). It is important to note that for males to be classified as heterosexual risk, they must report female partners with known HIV risk factors (such as IDU) or who are known to be HIV-positive. When considering exposure categories, which represent all reported HIV exposures, 44 percent of HIV-positive males ever report heterosexual contact (with or without partners with known risk) (table 3, page 220).

Late diagnoses:

Of the 5,758 persons living with HIV in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 HIV infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Persons with a risk of heterosexual sex make up 17 percent (523 cases) of persons living with stage 3 infection, of whom 37 percent (191 cases) had late diagnoses. Overall, heterosexuals (including HCFR and HCM) are more likely than IDU and less likely than MSM to have late diagnoses (table 3, page 220).

Geographic distribution:

Heterosexual contact accounts for 19 percent of HIV infection cases in high prevalence counties and 16 percent in low prevalence counties (data not included in tables; see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification).

Conclusions:

The majority of HIV-positive females in Out-State Michigan, regardless of race or age, have heterosexual risk. A small proportion of males have heterosexual risk, but a large proportion (44 percent) of males who have other risks, such as MSM, also had heterosexual contact (table 3, page 220). Cases with heterosexual risk are greater than the proportion of cases attributed to IDU (table 3), and although decreasing, the number of new diagnoses each year among persons with heterosexual risk is almost three times that of IDU (figure 8). Data on new diagnoses were not adjusted for reporting delay.

2014 Profile of HIV in Out-State Michigan

Ranked Behavioral Group: IDU

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

Injection drug users (IDU) are the third ranked behavioral group in Out-State Michigan and account for 11 percent (660 cases) of reported HIV-positive persons, including HIV-positive males who reported male-male sex and injecting drugs (MSM/IDU). MDCH estimates that there are 840 IDU currently living with HIV in Out-State Michigan, including 360 MSM/IDU (table 1, page 217).

Race/ethnicity and sex:

Of the 660 IDU and MSM/IDU living with HIV in Out-State Michigan, 75 percent are male (492 cases). White males make up the largest proportion of all IDU and MSM/IDU currently living with HIV in Out-State Michigan (38 percent), followed by black males (22 percent), black females and white females (11 percent), and Hispanic males (8 percent). Almost half of all IDU cases in Out-State Michigan (49 percent, 321 cases) are among white persons, and more than half of these are MSM/IDU (table 4, page 221).

Age at HIV diagnosis:

Among males diagnosed between the ages of 25 and 49 in Out-State Michigan, 12 percent are IDU (including MSM/IDU). As age at diagnosis increases, the proportion with a risk of IDU increases (as opposed to MSM, where the proportion decreases with age). This proportion peaks, however, with males 40-49 years at diagnosis and then begins to decrease (table 6, page 223).

Overall, IDU is the second most common risk for HIV-positive females. However, this is not true for females who were diagnosed at 0-12 years, 13-19 years, and 60 years and older. For females in these age groups, IDU falls behind undetermined risk and becomes the third most common risk. When considering males and females together, there are few HIV infection cases with a risk of IDU or MSM/IDU among persons who were teens (13-19 years) at the time of HIV diagnosis (4 percent).

Late diagnoses:

Of the 5,758 persons living with HIV infection in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). IDU make up 12 percent (371 cases, including MSM/IDU) of persons living with stage 3 infection, of whom 35 percent (130 cases) had late diagnoses. These data indicate that IDU are more likely than either heterosexuals or MSM to get tested early in the progression of HIV infection (table 1).

Geographic distribution:

Within high prevalence counties of Out-State Michigan, 11 percent of reported cases are IDU (including MSM/IDU), while in the lower prevalence counties 13 percent of persons living with HIV infection are IDU (data not included in tables; see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification).

Conclusions:

The majority of IDU and MSM/IDU cases in Out-State Michigan are among males, particularly white males. Over half of these white male cases are MSM/IDU. As age at diagnosis increases, IDU becomes a larger proportion of the risk for HIV-positive males. For females, however, the pattern is less clear, and IDU is the second most common risk for 20-24 and 30-59 year old HIV-positive females.

The number of new diagnoses that are IDU and MSM/IDU has remained low in recent years (figure 8), representing an average seven percent of new diagnoses each year (data not adjusted for reporting delay).

2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS) &
US Census Bureau

Overview:

The majority (52 percent) of persons living with HIV infection in Out-State Michigan are white. In contrast, 83 percent of the general population living in Out-State Michigan is white, indicating that the burden of HIV is lower than would be expected among this group. MDCH estimates that 3,830 white persons are living with HIV in Out-State Michigan. The reported prevalence rate among white persons is 64 cases per 100,000. The rate among white males is 112 per 100,000, and the rate among white females is 18 cases per 100,000. One out of 890 white males and one out of 5,560 white females are living with HIV in Out-State Michigan (table 1, page 217).

Black persons comprise 32 percent of persons living with HIV infection but just seven percent of the general population. MDCH estimates that 2,390 black persons are living with HIV in Out-State Michigan. Since these cases occur among a smaller overall population, they have a higher reported prevalence rate (453 cases per 100,000 persons) than white persons. The rate among black males is 611 per 100,000, and the rate among black females is 290 cases per 100,000. One out of every 160 black males and one out of every 350 black females are known to be living with HIV in Out-State Michigan (table 1).

Hispanic persons comprise eight percent of HIV cases and seven percent of the population in Out-State Michigan. MDCH estimates that 580 Hispanic persons are living with HIV infection in Out-State Michigan. The prevalence rate (162 per 100,000 persons) is higher than the rate among white persons, indicating a greater burden of HIV on a smaller overall population. One out of every 390 Hispanic males and one out of 1,590 Hispanic females are known to be living with HIV (table 1). See page 50 in the statewide chapter for a more in-depth analysis of Hispanic persons.

Other racial/ethnic minorities, including Asians/Native Hawaiians or Other Pacific Islanders, American Indians/Alaska Natives, and multiracial persons or persons of other race represent eight percent of persons living with HIV and five percent of the population in Out-State Michigan (440 reported cases; table 1). Data on minority groups living with HIV can be found on pages 128-133 of the statewide chapter.

Most persons living with HIV infection in Out-State Michigan are male (79 percent). The majority of the 4,546 reported male cases are white (57 percent), 28 percent are black, eight percent are Hispanic, and seven percent are other or unknown race. Conversely, the majority of the 1,212 females living with HIV infection in Out-State Michigan are black (49 percent), 35 percent are white, seven percent are Hispanic, and 10 percent are other or unknown race (table 4, page 221).

Racial and ethnic health disparities:

Despite the fact that the majorities of both the general and HIV-positive populations in Out-State Michigan are white, black persons are disproportionately affected by the epidemic. The HIV prevalence rate among black persons in Out-State Michigan is 453 cases per 100,000 persons, over seven times higher than the rate among white persons (64 per 100,000). The prevalence rate of black males is over five times that of white males. This disparity is even greater among females. The rate among black females is 16 times higher than the rate among white females. Additionally, more black females were newly diagnosed with HIV between 2008 and 2012 than white females (127 vs. 72).

2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

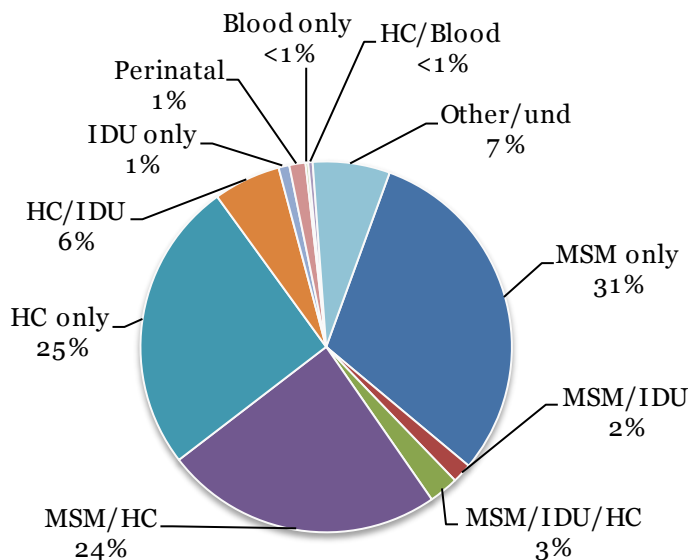
In addition to the black community, the Hispanic population of Out-State Michigan is also disproportionately impacted by HIV. While eight percent of reported cases occur among this group, they make up five percent of the Out-State population. Additionally, the prevalence rate among Hispanics is two-and-a-half times greater than white persons (162 vs. 64 cases per 100,000, respectively).

Racial and ethnic minorities (all groups except white persons) represent a small proportion of the overall population of Out-State Michigan (17 percent), but they represent almost half of all prevalent HIV infection cases. Given the disproportionate impact on these groups, it is important to focus attention on these disparities.

Exposure:

Since the majority of HIV-positive males have a risk of male-male sex (MSM), it is useful to examine exposure categories, which represent all risk behaviors among males. Figures 14 and 15 show black and white male cases living in Out-State Michigan by exposure category. A smaller proportion of HIV-positive black males have an exposure of MSM only compared to white males (31 percent vs. 55 percent, respectively). Twenty-seven percent of black male cases have risks of male-male sex as well as heterosexual contact (HC), including three percent who have risks of male-male sex, injection drug use, and heterosexual contact (MSM/IDU/HC). Twenty-five percent of HIV-positive black males have heterosexual contact as their only exposure compared to nine percent of white male cases. A larger proportion of HIV-positive black males have a dual risk of injection drug use and heterosexual contact compared to white males (six percent vs. two percent, respectively).

Figure 14: Black male HIV infection cases currently living in Out-State Michigan by exposure category, January 2014 (N = 1,281)

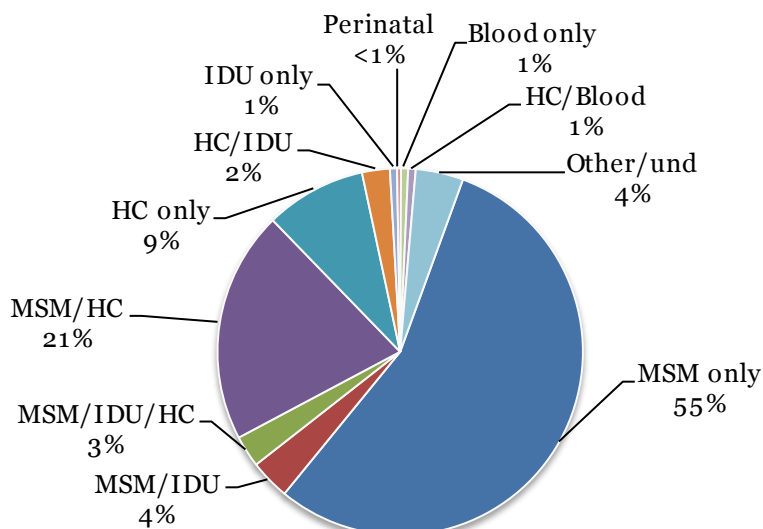


2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 15: White male HIV infection cases currently living in Out-State Michigan by exposure category, January 2014 (N = 2,574)



See figures 12 and 13 on page 192 for expanded risk among black and white HIV-positive females in Out-State Michigan. Expanded risk transmission categories are examined for females as the majority of female cases have heterosexual risk. When examining exposure categories, an even larger proportion of females have heterosexual risk, since IDU masks this in the risk transmission categories (table 5, page 114). The large number of male cases who have both male-male sex and heterosexual contact is interesting, given that just five percent of females report sex with MSM. This is likely an underestimate due to lack of completion of risk factor questions on the case report form or females being unaware of their male partners' risks (data not shown in tables).

Late diagnoses:

Of the 5,758 persons living with HIV infection in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Males make up 82 percent of stage 3 cases, of whom 44 percent had late diagnoses. Females make up the remaining 18 percent of stage 3 cases, of whom 35 percent had late diagnoses.

Fifty-four percent of stage 3 cases are among white persons, and 43 percent were diagnosed late in the course of their infection. Black persons make up 30 percent of stage 3 cases, and a smaller proportion had late diagnoses than among white persons (39 percent). Hispanic persons make up eight percent of stage 3 cases, of whom 52 percent had late diagnoses. Hispanics have the highest proportion of late diagnoses of any racial/ethnic group. Other minorities make up roughly seven percent of stage 3 cases, and between 31 and 40 percent had late diagnoses (table 1, page 217). This suggests that Hispanics are tested later in the course of their infection than other racial/ethnic groups.

2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Race and Sex

Data from enhanced HIV/AIDS Reporting System (eHARS)

Geographic distribution:

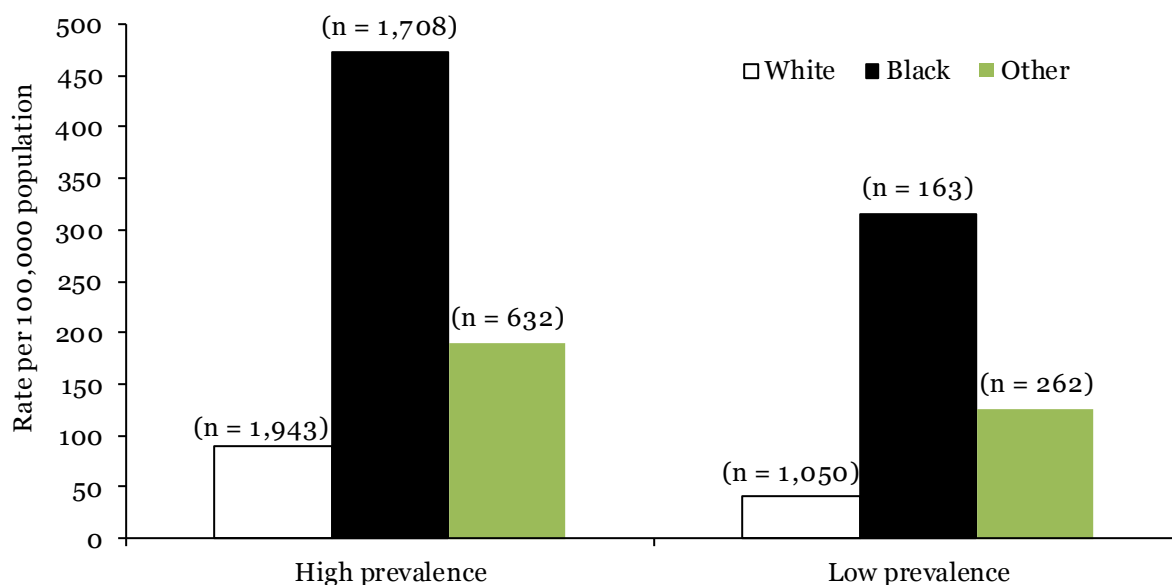
The distribution of various racial/ethnic groups differs throughout Out-State Michigan. Figure 16 shows that HIV prevalence rates in high prevalence counties in Out-State Michigan are at least one and a half times higher than those in low-prevalence areas for all racial/ethnic groups (see figure 2 on page 18 of the statewide chapter for high/low prevalence county classification).

The HIV infection prevalence rate among black persons is five times higher than white persons in high prevalence areas (472 vs. 90 cases per 100,000) and seven and a half times higher than the rate among white persons in low prevalence areas (316 vs. 42 cases per 100,000). This disparity exists despite the fact that there are fewer cases among black persons in low prevalence areas. The HIV infection prevalence rates among persons of other races/ethnicities (including Hispanics, Asians/Native Hawaiians or Other Pacific Islanders, American Indians/Alaska Natives, and persons of other, multi-, or unknown race) are twice as high as the rate among white persons in high prevalence areas (190 cases per 100,000) and three times higher than the rate among whites in low prevalence areas (126 cases per 100,000). This suggests that, in low prevalence areas of the state, racial and ethnic minorities are more impacted by HIV despite the actual number of cases being lower.

Conclusions:

The majority of HIV-positive persons living in Out-State Michigan are white males, but HIV prevalence rates remain highest among black persons of both sexes. Black females are particularly impacted, with a prevalence rate 16 times that of white females and a greater number of new diagnoses between 2008 and 2012 (table 1, page 217).

Figure 16: Rates of persons living with HIV infection in high and low prevalence areas in Out-State Michigan by race, January 2014



2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Age at diagnosis:

The majority of persons newly diagnosed with HIV in Out-State Michigan are between 30 and 39 years old, followed by persons 40-49 years of age (figure 17). Looking at age at stage 3 diagnosis in figure 18, 40-49 year olds make up a similar proportion of new stage 3 diagnoses than all new HIV diagnoses (20 percent vs. 19 percent, respectively), and 20-29 year olds make up similar proportions of stage 3 diagnoses as all new HIV diagnoses (30 percent vs. 32 percent, respectively). Data on age at HIV diagnosis found in table 1, page 217; data on age at stage 3 diagnoses not shown in tables.

Figure 17: Age at HIV diagnosis for persons living with HIV infection in Out-State Michigan, January 2014

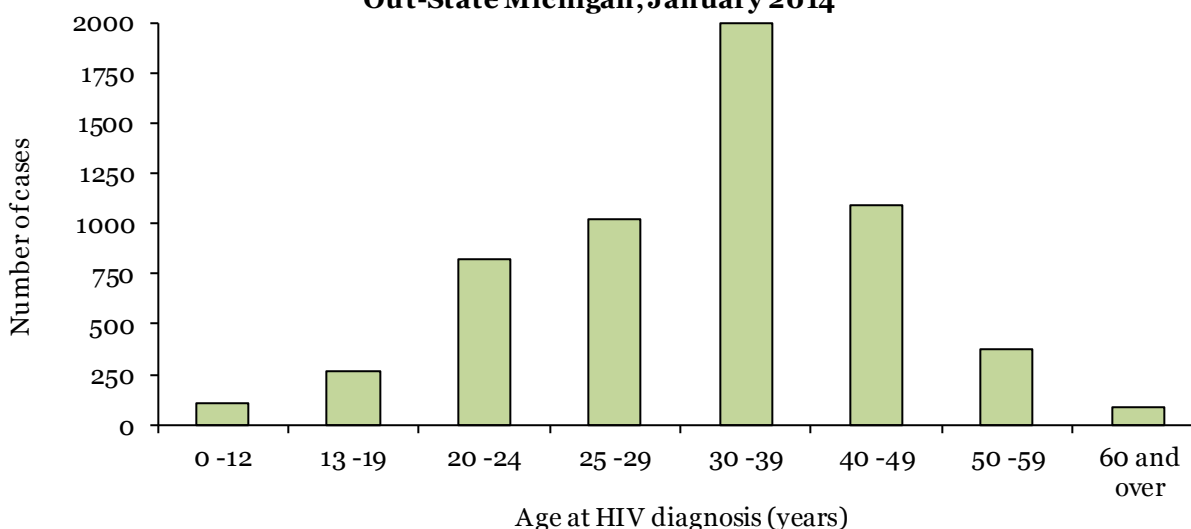
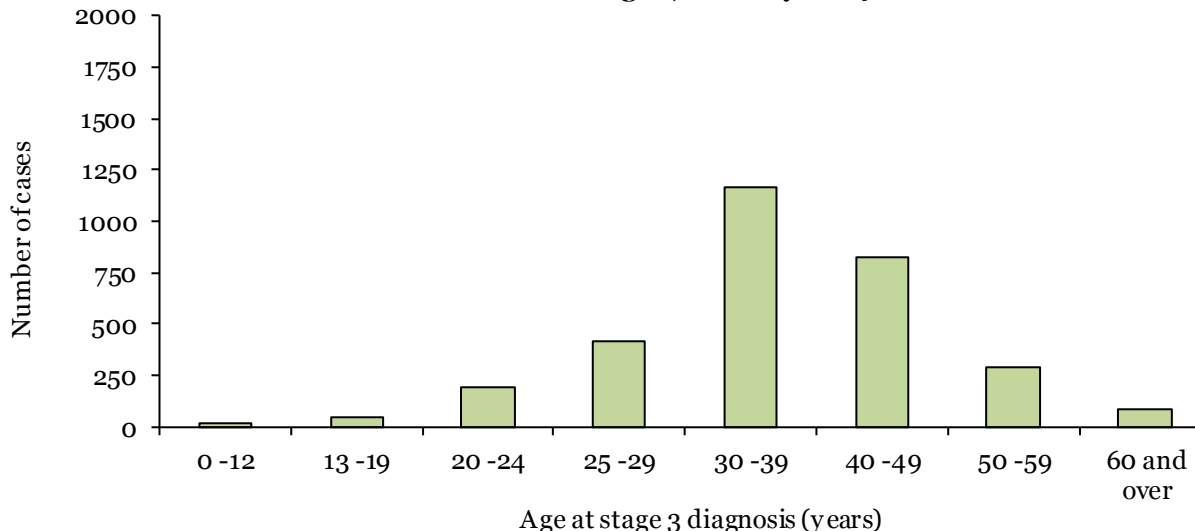


Figure 18: Age at stage 3 diagnosis for persons living with HIV infection in Out-State Michigan, January 2014

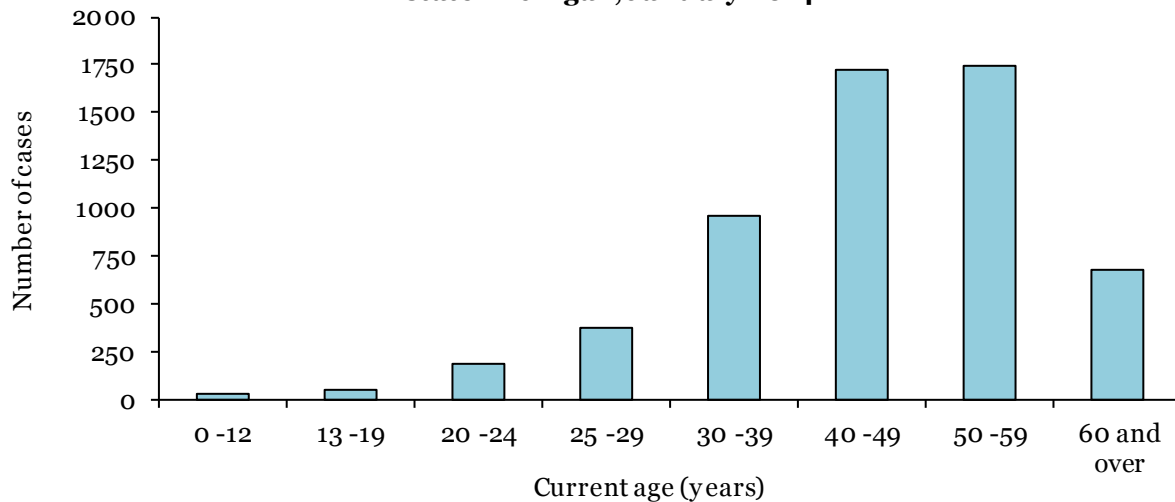


2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age

Data from enhanced HIV/AIDS Reporting System (eHARS)

Figure 19: Current age of persons living with HIV infection in Out-State Michigan, January 2014



Current age:

Since use of Highly Active Anti-Retroviral Therapy (HAART) became widespread in 1996, HIV-positive persons have been living longer. This is evident in figure 19, which shows the current age of persons living with HIV in Out-State Michigan as of January 1, 2014. Those currently in their forties and fifties make up the largest proportion of persons living with HIV (30 percent each). While persons who were 50 years and older at the time of HIV diagnosis represent only eight percent of newly diagnosed cases, they make up 42 percent of persons living with HIV when considering current age (data on current age not shown in tables).

Late diagnoses:

Of the 5,758 persons living with HIV infection in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). When examining persons living with stage 3 infection by age at HIV diagnosis, the proportion of cases with late diagnoses increases as age increases (except for persons 0-12 years at diagnosis, 37 percent of whom had late diagnoses). Among persons 60 years and older at stage 3 diagnosis, 69 percent were diagnosed late in the course of their infection (table 1, page 217).

Conclusions:

The majority of all prevalent cases were 30-39 years old at the time of diagnosis, followed by those 40-49 years old at diagnosis (table 1). When considering current age, however, persons 40-49 years, and persons 50-59 years, make up the largest proportion of persons living with HIV infection. This aging HIV-positive population raises new issues surrounding prevention and care.

2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: Children (0-12 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 101 persons living with HIV in Out-State Michigan who were 0-12 years old at diagnosis. They comprise two percent of all reported HIV infection cases (table 1, page 217). Most 0-12 year olds (71 percent) were infected perinatally, i.e., before, during, or shortly after birth. Of the remaining individuals, nine percent were infected via exposures to HIV-infected blood products before 1985 (table 6, page 223). The remaining 20 percent have unknown or other risk. Many of those with unknown risk are suspected perinatal transmission cases but were born outside the United States (data not included in tables).

Race/ethnicity and sex:

Of the 101 persons living in Out-State Michigan who were ages 0-12 at HIV diagnosis, 52 percent are male and 48 percent are female. Fifty percent are black, 29 percent are white, 10 percent are Hispanic, and the remaining 11 percent are of other or unknown race/ethnicity (table 5, page 222).

Of the 76 persons with confirmed perinatal exposures, 49 percent are male and 51 percent are female. Fifty-three percent are black, 21 percent are white, 13 percent are Hispanic, and 13 percent are other/unknown race (table 4, page 221).

Late diagnoses:

Of the 5,758 persons living with HIV infection in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Children (0-12 year olds) make up one percent of persons living with stage 3, of whom 37 percent (11 cases) had late diagnoses (table 1).

Geographic distribution:

Over half (60 percent) of the 101 persons diagnosed with HIV between the ages of 0-12 years are currently residents of high prevalence counties in Out-State Michigan (see figure 2, page 18 of the statewide chapter for high/low prevalence county classification). This group makes up a larger proportion of cases in low prevalence counties (three percent vs. one percent; data not shown in tables).

Trends and conclusions:

Among the best measurable successes in reducing HIV transmission has been prevention of mother to child (perinatal) transmission. Without antiretroviral (ARV) prophylaxis, about 25 percent of children born to HIV-positive females could expect to become HIV-positive themselves. In Out-State Michigan, the proportion of children who become infected perinatally has dropped precipitously, from 31 percent prior to 1997 to seven percent from 1997-2009. As of January 1, 2014, one of the 14 children born in Out-State Michigan in 2010 and one of the 13 children born in 2011 to HIV-positive females were diagnosed with HIV infection. One of the 18 children born in Out-State Michigan in 2012 and none of the 11 children born in 2011 to HIV-positive females have been diagnosed with HIV, although data are not complete at this time (data not shown in tables). NOTE: numbers in this paragraph are based on residence at *birth*, NOT current residence.

2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: Teens and Young Adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 1,089 persons living in Out-State Michigan who were 13-24 years old at HIV diagnosis. They comprise 19 percent of all persons reported with HIV infection in Out-State (5 percent ages 13-19 years; 14 percent ages 20-24 years; table 1, page 217).

Risk-teens (13-19 years):

In the 1980s, most HIV-positive teenagers were recipients of HIV-infected blood or blood products. Since screening of all blood products began in 1985, however, this proportion has steadily declined. Figures 20 and 21 show risk for males and females who were 13-19 years at diagnosis, respectively. Among the 268 persons living with HIV in Out-State Michigan who were 13-19 at the time of HIV diagnosis, 181 (68 percent) are male (figure 20). Among these male cases, 78 percent are males who have sex with males (MSM), including two percent who also inject drugs (MSM/IDU). Five percent were recipients of HIV-infected blood products before 1985, and three percent are injection drug users (including MSM/IDU). Two percent had heterosexual contact with females with known risk (HCFR). Thirteen percent of 13-19 year old HIV-positive males had undetermined risk.

Figure 20: Males ages 13-19 at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 181)

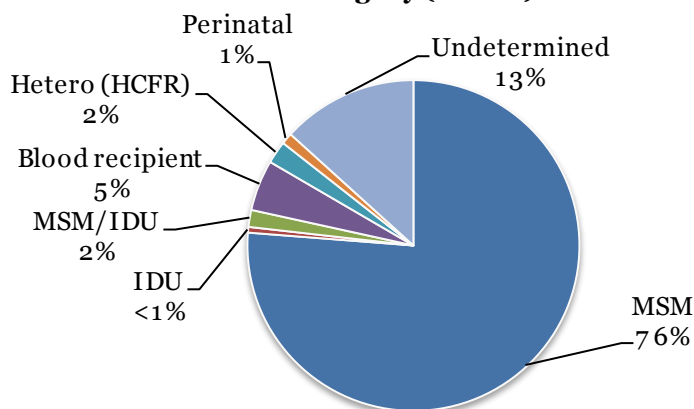
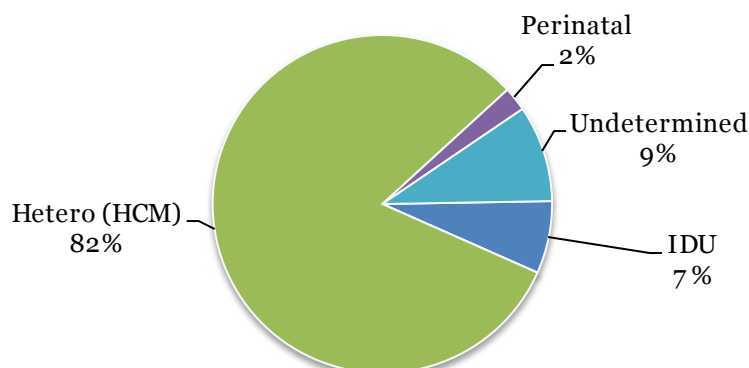


Figure 21: Females ages 13-19 at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 87)



2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: Teens and Young Adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS)

Females make up the remaining 87 persons in this age group (32 percent; figure 21). Eighty-two percent have a risk of heterosexual contact (HCM). Seven percent are injection drug users (IDU), and nine percent have undetermined risk.

Risk-young adults (20-24 years):

Figures 22 and 23 show risks among persons who were 20-24 years at the time of HIV diagnosis. Among the 821 persons living with HIV in Out-State Michigan in this age group, 75 percent are male. Eighty-five percent of male young adults reported sex with other males, including seven percent who are MSM/IDU. Nine percent had undetermined risk, and nine percent reported IDU (including MSM/IDU). Three percent had heterosexual risk (HCFR), one percent received HIV-infected blood products. Three percent had heterosexual risk (HCFR), one percent received HIV-infected blood products.

Figure 23 shows that, among the 203 females living with HIV who were ages 20-24 at the time of diagnosis, 78 percent had heterosexual risk (HCM). Twelve percent were IDU, and nine percent had undetermined risk. Less than one percent were recipients of HIV-infected blood products.

Figure 22: Males ages 20-24 at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 618)

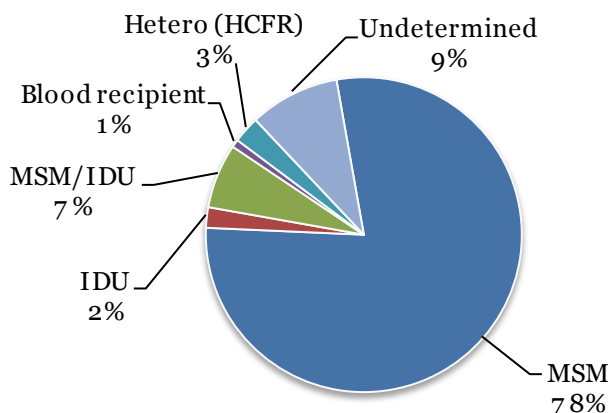
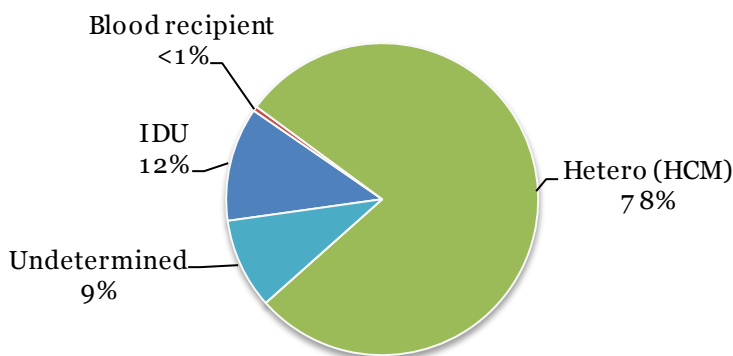


Figure 23: Females ages 20-24 at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 203)



2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: Teens and Young Adults (13-24 years)

Data from enhanced HIV/AIDS Reporting System (eHARS), Michigan Disease Surveillance System (MDSS), & Vital Records

Race/ethnicity:

Fifty-four percent of persons currently living in Out-State Michigan who were 13-19 years old at the time of HIV diagnosis are black, 31 percent are white, six percent are Hispanic, and 10 percent are of other or unknown race. Conversely, 43 percent of persons 20-24 years old at HIV diagnosis are white, 41 percent are black, eight percent are Hispanic, and nine percent are of other or unknown race.

STDs:

STD rates are highest among teens and young adults. In persons 20-24 years, the rates of chlamydia and gonorrhea are about five times higher than the rates among the general population. Although those ages 13-24 make up only 18 percent of the population, they represent 65 percent of gonorrhea cases and 74 percent of chlamydia cases (table 7, page 224). In 2013, 42 percent of primary and secondary syphilis cases were under the age of 25 compared to 25 percent in 2011, reflecting a shift toward infection at younger ages. While rates of STDs among 13-24 year olds are higher than any other age groups, the rates of HIV in this demographic group are comparably low. Since the rates of HIV among teens are very low, and because most teens have sex with other teens, the gonorrhea and chlamydia epidemic is perpetuated and HIV is rarely introduced into the general teen population.

Teen pregnancy:

Wayne County, which is in the Detroit Metro Area (DMA), has the second highest rate of teen pregnancy in the state (67 pregnancies per 1,000 females). Aside from Wayne, Out-State Michigan counties have the highest rates of teen (ages 15-19) pregnancies in the state. Lake, followed by Mason, have the first and third highest rates (68 and 64 pregnancies per 1,000 females, respectively). Genesee and Van Buren counties also have rates in the 60's which is well above the statewide average of 41.1 pregnancies per 1,000 females (data not shown in tables).

Geographic distribution:

Over three quarters (80 percent) of persons 13-24 years old at diagnosis currently living in Out-State Michigan live in high prevalence counties (see figure 2 on page 17 of the statewide chapter for high/low prevalence county classification). Teens and young adults make up 20 percent of all HIV-positive persons in high prevalence counties and 15 percent of cases in low prevalence counties (data not shown in tables).

Conclusions:

Teens and young adults (persons who were 13-24 years at HIV diagnosis) represent 19 percent of all prevalent HIV infection cases in Out-State Michigan). Teens are one of only two age groups who are more likely to be black than white, suggesting racial disparities in persons diagnosed at a young age (table 5, page 222). The most frequently reported risk among male teen and young adult cases is male-male sex (MSM), while the most frequently reported risk among female teen and young adult cases is heterosexual contact (HCM) (table 6, page 223).

2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview:

As of January 2014, there were 458 persons living with HIV infection in Out-State Michigan who were 50 years and older at the time of diagnosis (table 1, page 217). They comprise eight percent of all reported HIV-positive persons, and 80 percent are male. Sixty-one percent are white, 25 percent are black, six percent are Hispanic, and eight percent are other/unknown race (table 5, page 222).

Risk-males:

When examining risk, those who were in their fifties at the time of HIV diagnosis have a different risk profile than those who were ages 60 and older. Therefore, the risks of these two populations are discussed separately.

As of January 2014, there were 296 males currently living with HIV in Out-State Michigan who were diagnosed in their 50s (80 percent of all persons 50-59 years at diagnosis; table 7). Of all persons 60 and over at HIV diagnosis, 72 are male (82 percent). Figures 24 and 25 show the risk profiles of males diagnosed in their 50s and at 60 and older, respectively.

Figure 24: Males ages 50-59 at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 296)

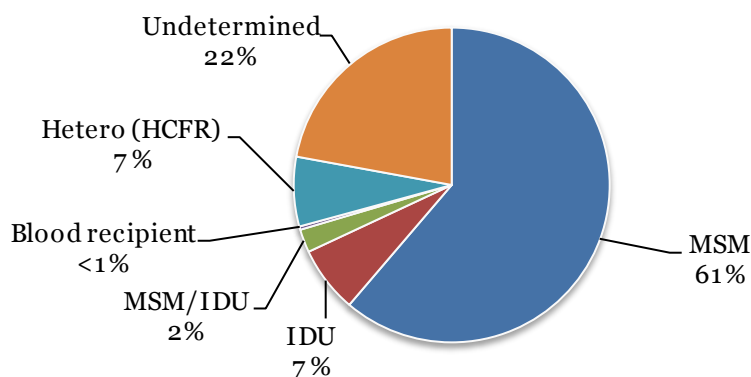
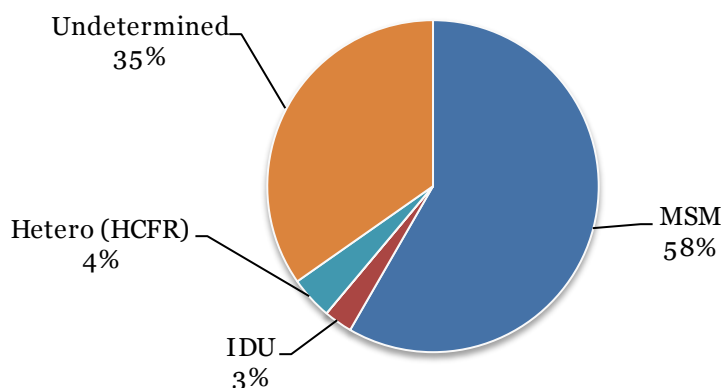


Figure 25: Males ages 60 and older at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 72)



2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS)

As with males in all other age groups (excluding 0-12 year olds), male-male sex (MSM) is the most common risk (including those who also inject drugs, or MSM/IDU). However, the proportion who are MSM decreases with increasing age. Both males 50-59 years old and 60 years and older at HIV diagnosis have higher proportions of undetermined risk than males diagnosed at younger ages (22 and 35 percent, respectively). Males who were in their 50s at HIV diagnosis are more likely to be injection drug users (IDU) compared to males 60 years and older (nine percent vs. three percent, respectively). This includes males with a dual risk of male-male sex and IDU (MSM/IDU). Seven percent of 50-59 year old HIV-positive males and four percent of males 60 and older have heterosexual risk (HCFR)

Risk-females:

As with HIV-positive females in other age groups, the most common risk is heterosexual contact (HC) (70 percent and 50 percent, respectively) (figures 26 and 27). Three percent of females 50-59 years at diagnosis were recipients of HIV-infected blood products (compared to none in those 60 years and older at diagnosis), and females 60 years and older at diagnosis are more likely to be injection drug users (IDU) (19 percent vs. 15 percent, respectively).

Figure 26: Females ages 50-59 at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 74)

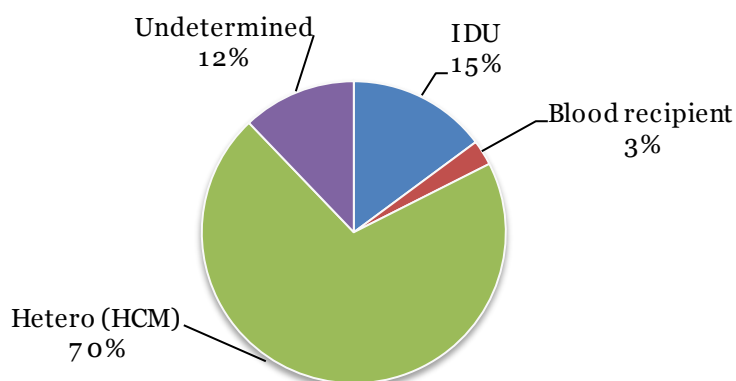
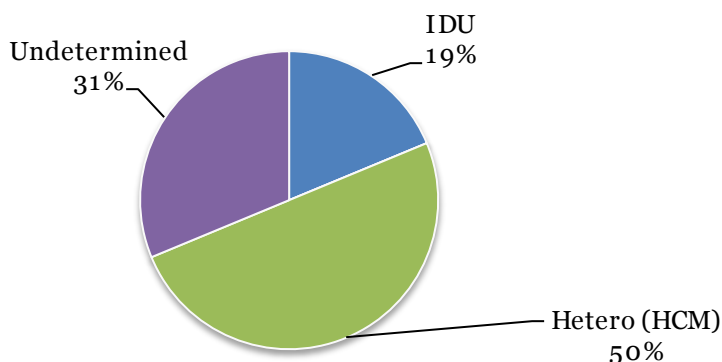


Figure 27: Females ages 60 and older at diagnosis currently living with HIV infection in Out-State Michigan, by risk transmission category (n = 16)



2014 Profile of HIV in Out-State Michigan

Description of the Epidemic by Age: 50 years and older

Data from enhanced HIV/AIDS Reporting System (eHARS) &
Michigan Disease Surveillance System (MDSS)

STDs:

Gonorrhea and chlamydia are epidemics largely affecting young people in Out-State Michigan, with less than one percent of chlamydia cases and two percent of gonorrhea cases being over 50 years old. Eighty-two percent of gonorrhea cases and 55 percent of chlamydia cases are male. In contrast, nine percent of infectious syphilis cases are over the age of 50, and 89 percent are male. These individuals are more likely to be white (100 percent versus 52 percent) compared to all infectious syphilis cases in this demographic (age/sex/race breakdown not shown in tables).

Late diagnoses:

Of the 5,758 persons living with HIV infection in Out-State Michigan, 53 percent (3,047 cases) have progressed to stage 3 infection. Of these, 1,290 (42 percent) were diagnosed with stage 3 infection at the time of their initial HIV diagnoses (late HIV diagnoses). Persons who were in their fifties at HIV diagnosis make up seven percent (218 cases) of persons living with stage 3 infection, of whom 67 percent had late diagnoses. Those who were 60 years and older at diagnosis make up two percent of persons living with stage 3 infection (61 cases), of whom 69 percent had late diagnoses. These two age groups have the highest proportion of late diagnoses of all age groups, suggesting later or less frequent testing in this group (table 1, page 217).

Conclusions:

Although persons 50 years and older represent just eight percent of all prevalent cases, it is important to understand the specific challenges faced by older Michiganders and to ensure that they receive information and services to help protect them from infection. Their age also may mean they face unique health challenges not encountered by HIV-positive persons in younger age groups.

2014 Profile of HIV in Out-State Michigan

Sexually Transmitted Diseases

Data from Michigan Disease Surveillance System (MDSS)

Overview:

Several sexually transmitted diseases (STDs) are more common than HIV infection, have a short incubation period, and are curable. Reviewing their patterns of transmission can provide additional information regarding recent sexual behavior and potential risk, not available from HIV/AIDS data. Studies have shown that the risk of both acquiring and spreading HIV is two to five times greater in people with STDs. Aggressive STD treatment in a community can help to reduce the rate of new HIV infections.

Gonorrhea and chlamydia:

During 2013 there were over 22,000 cases of chlamydia and nearly 4,000 cases of gonorrhea reported in Out-State Michigan (table 7, page 224). For both gonorrhea and chlamydia, the highest rates of infection are among persons age 20-24. This age group comprises eight percent of the Out-State population but accounted for 38 percent of gonorrhea and 42 percent of chlamydia cases. The rates of chlamydia and gonorrhea among blacks were much higher than among whites. Even though 18 percent of gonorrhea cases and 24 percent of chlamydia cases were missing race information, the rates (number of cases per population) among blacks remain higher even if all unknown cases were among whites. The rate of gonorrhea among blacks is 26 times the white rate. The rate among blacks is nine times the white rate for chlamydia. Fifty-six percent of gonorrhea cases were female, while 71 percent of reported chlamydia cases were female. This is partly because chlamydia screening targets females.

Syphilis:

In 2013, Out-State Michigan contributed 19 percent of primary and secondary (P&S) syphilis cases statewide. This substantial decrease in Out-State Michigan P&S cases (from 79 percent in 2011) is largely due to a Detroit area outbreak. Forty-two percent of Out-State P&S syphilis cases were under the age of 25. A similar percentage of cases were age 25-39 (43 percent), and the remaining 16 percent are over the age of 40 (table 7, page 224). Syphilis cases reported in 2013 were more likely to be white (52 percent) and male (97 percent), however the rate was seven times higher among black persons.

Risk:

There has been a national increase of STD diagnoses among self-identified men who have sex with men. Michigan does not collect data on sexual orientation for all gonorrhea or chlamydia cases, but does for syphilis cases. Of P&S syphilis cases in 2013, 72 percent are men who have sex with men. Of these MSM, 62 percent are HIV infected. These data reflect a shift from earlier years. In 2008, 25 percent of Out-State P&S syphilis cases were among MSM, which increased to 78 percent in 2013. Forty-three percent of males are HIV co-infected. These trends are mirrored nationally and are the focus of prevention efforts around the country (data not shown in tables).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Ann Arbor

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Ann Arbor Metropolitan Statistical Area (MSA) is solely comprised of Washtenaw County (see Appendix A, page 233 for a description of an MSA). This MSA is considered high prevalence with an HIV infection prevalence rate of 186 cases per 100,000 population. An estimated 830 persons are living with HIV in the Ann Arbor MSA as of January 1, 2014 (table 9 of statewide chapter).

Of the 652 persons reported to be living with HIV in the Ann Arbor MSA, 66 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is compared to 56 percent statewide. The proportion who are MSM differs by race, however, with 88 percent of white males reporting MSM or MSM/IDU compared to just 69 percent among black males. Eleven percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Fifteen percent of those living with HIV in this area have heterosexual risk (13 percent female, three percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 8, page 225 for Ann Arbor MSA data and table 8, page 112 of the statewide chapter for statewide data). MSM therefore make up a greater proportion of the risk among HIV-positive persons in this area than they do statewide, while heterosexuals and IDU are less prominent.

Race/ethnicity and sex:

Persons living with HIV in the Ann Arbor MSA are 48 percent white and 42 percent black (table 8, page 225). However, the rate among black persons is five times higher than the rate among white persons (625 cases per 100,000 vs. 124 cases per 100,000, respectively; data not shown in tables). Statewide, a larger proportion of cases are black than are white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Six percent of persons living with HIV in this area are Hispanic compared to five percent statewide (table 8, page 225). The prevalence rate among Hispanics in this area is over twice that of white persons (274 vs. 124 per 100,000, respectively; data not shown in tables). The statewide rate among Hispanics is lower at 185 cases per 100,000 population (table 8 of statewide chapter).

Of the 652 persons living with HIV in the Ann Arbor MSA, 82 percent are male and 18 percent are female (table 8, page 225). This is a larger proportion of males than is seen statewide (78 percent male and 22 percent female; table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Ann Arbor MSA, 30 percent of those infected with HIV/AIDS have unmet need. Thirty-one percent of males have unmet need compared to 24 percent of women. This varies by race as 38 percent of Hispanic cases, 30 percent of black cases, 29 percent of white cases, and 26 percent of other/unknown races have unmet need. Forty-four percent of IDUs have unmet need, compared to 41 percent of MSM/IDU, 29 percent MSM only, 20 percent of male HCFR and 23 percent of female cases with HCM. The highest unmet need by current age group occurs among 40-44 year olds (38 percent), 35-39 year olds (33 percent), 45-49 year olds (31 percent), 50-54 year olds (30 percent) and 30-34 year olds (29 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Benton Harbor

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Benton Harbor Metropolitan Statistical Area (MSA) is solely comprised of Berrien County. This MSA is considered high prevalence with an HIV infection prevalence rate of 170 cases per 100,000 population. An estimated 340 persons are living with HIV in the Benton Harbor MSA as of January 1, 2014 (table 9 of statewide chapter).

Of the 265 persons reported to be living with HIV in the Benton Harbor MSA County, 42 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is low compared to 56 percent statewide. Eleven percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Twenty-nine percent have heterosexual risk (22 percent female, six percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 9, page 226 for Benton Harbor MSA data and table 8, page 112 of the statewide chapter for statewide data). Heterosexuals therefore make up a greater proportion of the risk among HIV-positive persons in this area than they do statewide. MSM and IDU are less prominent.

Race/ethnicity and sex:

Persons living with HIV in the Benton Harbor MSA are 32 percent white and 58 percent black (table 9). The rate among black persons is nine times higher than the rate among white persons (650 cases per 100,000 vs. 73 cases per 100,000, respectively; data not shown in tables). Likewise, statewide, a larger proportion of cases are black than are white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). This area seems to have a similar racial distribution to that found statewide. Six percent of persons living with HIV in this area are Hispanic compared to five percent statewide (table 9). The prevalence rate among Hispanics in this area is 247 cases per 100,000 (data not shown in tables). This is higher than the statewide rate among Hispanics of 185 cases per 100,000 population (table 8 of statewide chapter).

Of 265 persons living with HIV in the Benton Harbor MSA, 68 percent are male and 32 percent are female (table 9). This is a smaller proportion of males than is seen statewide (78 percent male and 22 percent female; table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Benton Harbor MSA, 46 percent of those infected with HIV/AIDS have unmet need. Forty-nine percent of males have unmet need compared to 41 percent of women. This varies by race as 73 percent of Hispanic cases, 47 percent of black cases, 43 percent of white cases, and 13 percent of other/unknown races have unmet need. Seventy percent of IDUs have unmet need, compared to 57 percent of MSM/IDU, 46 percent MSM only, 28 percent of male HCFR and 34 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 30-34 year olds (61 percent), 55-59 year olds (58 percent), 45-49 year olds (51 percent), 25-29 year olds (47 percent) and 20-24 year olds (44 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Flint

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Flint Metropolitan Statistical Area (MSA) is solely comprised of Genesee County. This MSA is considered high prevalence with an HIV infection prevalence rate of 133 cases per 100,000 population. An estimated 710 persons are living with HIV in the Flint MSA as of January 1, 2014 (table 9 of the statewide chapter).

Of the 557 persons reported to be living with HIV in the Flint MSA, 57 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is compared to 56 percent statewide. Eight percent of persons living with HIV in the Flint MSA are IDU (including MSM/IDU) compared to 13 percent statewide. Seventeen percent of those living with HIV in the Flint MSA have heterosexual risk (13 percent female, four percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 10, page 227 for Flint MSA data and table 8, page 112 of the statewide chapter for statewide data). MSM and heterosexuals therefore make up a similar proportion of the risk among HIV-positive persons in this area as they do statewide, and IDU are less prominent.

Race/ethnicity and sex:

Persons living with HIV in the Flint MSA are 45 percent white and 49 percent black (table 10). However, the rate among black persons is almost four times higher than the rate among white persons (317 cases per 100,000 vs. 82 cases per 100,000, respectively; data not shown in tables). Statewide, a larger proportion of cases are black than are white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Three percent of persons living with HIV in in this area are Hispanic compared to five percent statewide (table 10). The prevalence rate among Hispanics in in this area is almost one and a half times higher than that of white persons (114 vs. 82 per 100,000, respectively; data not shown in tables). The statewide rate among Hispanics is 185 cases per 100,000 population (table 8 of statewide chapter).

Of the 557 persons living with HIV in the Flint MSA, 80 percent are male and 20 percent are female (table 10). This is a slightly larger proportion of males than is seen statewide (78 percent male and 22 percent female; table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Flint MSA, 40 percent of those infected with HIV/AIDS have unmet need. Forty percent of males have unmet need compared to 39 percent of women. This varies by race as 36 percent of Hispanic cases, 39 percent of black cases, 44 percent of white cases, and 15 percent of other/unknown races have unmet need. Thirty-one percent of IDUs have unmet need, compared to 53 percent of MSM/IDU, 38 percent MSM only, 33 percent of male HCFR and 38 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 30-34 year olds (47 percent), 25-29 year olds (45 percent), 20-24 year olds (44 percent), 40-44 year olds (44 percent) and 35-39 year olds (43 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Grand Rapids-Muskegon-Holland

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Grand Rapids-Muskegon-Holland Metropolitan Statistical Area (MSA) is comprised of Allegan, Kent, Muskegon, and Ottawa Counties. This MSA is considered high prevalence with an HIV infection prevalence rate of 125 cases per 100,000 population. An estimated 1,860 persons are living with HIV in the Grand Rapids-Muskegon-Holland MSA as of January 1, 2014 (table 9 of the statewide chapter).

Of the 1,459 persons reported to be living with HIV in the Grand Rapids-Muskegon-Holland MSA, 59 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is slightly higher than the statewide prevalence of 56 percent and is largely attributable to the differing proportions of MSM and MSM/IDU by race. While 87 percent of white males are MSM or MSM/IDU, only 63 percent of Hispanic males and 57 percent of black males report MSM or MSM/IDU. Eleven percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Twenty-one percent of those living with HIV in this area have heterosexual risk (16 percent female, four percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 11, page 228 for Grand Rapids-Muskegon-Holland MSA data and table 8, page 112 of the statewide chapter for statewide data). Heterosexuals and MSM (including MSM/IDU) therefore make up a greater proportion of the risk among HIV-positive persons in this area than they do statewide, and IDU (including MSM/IDU) are less prominent.

Race/ethnicity and sex:

Persons living with HIV in Grand Rapids-Muskegon-Holland MSA are 50 percent white and 33 percent black (table 11). The rate among black persons is almost seven times higher than the rate among white persons (545 cases per 100,000 vs. 79 cases per 100,000, respectively; data not shown in tables). This racial distribution is similar to that found statewide (55 percent black and 35 percent white statewide). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Fourteen percent of persons living with HIV in this area are Hispanic compared to five percent statewide (table 11). The prevalence rate among Hispanics in this area is two and a half times that of white persons (194 vs. 79 per 100,000, respectively; data not shown in tables). The statewide rate among Hispanics is similar at 185 cases per 100,000 population (table 8 of statewide chapter).

Of the 1,459 persons living with HIV in the Grand Rapids-Muskegon-Holland MSA, 78 percent are male and 22 percent are female (table 11). The proportion is the same for males and females when compared to the entire state (table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Grand Rapids MSA, 30 percent of those infected with HIV/AIDS have unmet need. Twenty-nine percent of males have unmet need compared to 32 percent of women. This varies by race as 40 percent of Hispanic cases, 32 percent of black cases, 26 percent of white cases, and 38 percent of other/unknown races have unmet need. Thirty-six percent of IDUs have unmet need, compared to 34 percent of MSM/IDU, 28 percent MSM only, 32 percent of male HCFR and 30 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 35-39 year olds (39 percent), 40-44 year olds (33 percent), 45-49 year olds (33 percent), 65 and older (33 percent) and 20-24 year olds (31 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Jackson

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Jackson Metropolitan Statistical Area (MSA) is solely comprised of Jackson County. This MSA is considered high prevalence with an HIV infection prevalence rate of 108 cases per 100,000 population. An estimated 220 persons are living with HIV in the Jackson MSA as of January 1, 2014 (table 9 of the statewide chapter).

Of the 173 persons reported to be living with HIV in the Jackson MSA, 53 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is slightly lower compared to 56 percent statewide. Also, while 73 percent of white males are MSM or MSM/IDU, only 33 percent of black males report MSM or MSM/IDU. Nine percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Eighteen percent have heterosexual risk (16 percent female, three percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 12, page 229 for Jackson MSA data and table 8, page 112 of the statewide chapter for statewide data). Heterosexuals therefore make up an equal proportion of the risk among HIV-positive persons in the this area as they do statewide. MSM and IDU are less prominent in this area.

Race/ethnicity and sex:

Persons living with HIV in the Jackson MSA are 65 percent white and 26 percent black (table 12). The rate among black persons is four times higher than the rate among white persons (348 cases per 100,000 vs. 83 cases per 100,000, respectively; data not shown in tables). Statewide, a roughly opposite proportion of cases are black and white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Three percent of persons living with HIV in this area are Hispanic compared to five percent statewide (table 12). The prevalence rate among Hispanics in the Jackson MSA is 58 cases per 100,000 (data not shown in tables). This is much lower than the statewide rate among Hispanics of 185 cases per 100,000 population (table 8 of statewide chapter).

Of 173 persons living with HIV in the Jackson MSA, 80 percent are male and 20 percent are female (table 12). This is a slightly larger proportion of males than is seen statewide (78 percent male and 22 percent female; table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Jackson MSA, 30 percent of those infected with HIV/AIDS have unmet need. Thirty percent of males have unmet need compared to 28 percent of women. This varies by race as 29 percent of Hispanic cases, 32 percent of black cases, 28 percent of white cases, and 11 percent of other/unknown races have unmet need. Fifty percent of IDUs have unmet need, compared to 60 percent of MSM/IDU, 26 percent MSM only, 13 percent of male HCFR and 24 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 50-59 year olds and 40-44 year olds (38 percent), 25-29 year olds (32 percent), 30-34 year olds (31 percent), and 65 and older (29 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Kalamazoo-Battle Creek

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Kalamazoo-Battle Creek Metropolitan Statistical Area (MSA) is comprised of Calhoun and Kalamazoo Counties. This MSA is considered high prevalence with an HIV infection prevalence rate of 142 cases per 100,000 population. An estimated 710 persons are living with HIV in the Kalamazoo-Battle Creek MSA as of January 1, 2014 (table 9 of the statewide chapter).

Of the 553 persons reported to be living with HIV in the Kalamazoo-Battle Creek MSA, 57 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is similar compared to 56 percent statewide. Eleven percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Twenty percent have heterosexual risk (15 percent female, five percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 13, page 230 for Kalamazoo-Battle Creek MSA data and table 8, page 112 of the statewide chapter for statewide data). MSM and heterosexuals therefore make up a slightly greater proportion of the risk among HIV-positive persons in this area than they do statewide. IDU are less prominent.

Race/ethnicity and sex:

Persons living with HIV in the Kalamazoo-Battle Creek MSA are 50 percent white and 40 percent black (table 13). The rate among black persons is almost six times higher than the rate among white persons (528 cases per 100,000 vs. 90 cases per 100,000, respectively; data not shown in tables). Statewide, a larger proportion of cases are black than are white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Four percent of persons living with HIV in the Kalamazoo-Battle Creek MSA are Hispanic compared to five percent statewide (table 13). The prevalence rate among Hispanics in the Kalamazoo-Battle Creek MSA is 117 cases per 100,000 (data not shown in tables). This is lower than the statewide rate among Hispanics of 185 cases per 100,000 population (table 8 of statewide chapter).

Of 553 persons living with HIV in the Kalamazoo-Battle Creek MSA, 78 percent are male and 22 percent are female (table 13). The proportion is the same for males and females when compared to the entire state (table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Kalamazoo MSA, 31 percent of those infected with HIV/AIDS have unmet need. Twenty-nine percent of males have unmet need compared to 36 percent of women. This varies by race as 50 percent of Hispanic cases, 38 percent of black cases, 25 percent of white cases, and 11 percent of other/unknown races have unmet need. Forty percent of IDUs have unmet need, compared to 37 percent of MSM/IDU, 30 percent MSM only, 20 percent of male HCFR and 28 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 25-29 year olds (46 percent), 45-49 year olds (34 percent), 35-39 year olds (33 percent), 50-54 year olds (32 percent), and 40-44 year olds (32 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Lansing-East Lansing

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Lansing-East Lansing Metropolitan Statistical Area (MSA) is comprised of Clinton, Eaton, and Ingham Counties. This MSA is considered high prevalence with an HIV infection prevalence rate of 139 cases per 100,000 population. An estimated 830 persons are living with HIV in the Lansing-East Lansing MSA as of January 1, 2014 (table 9 of the statewide chapter).

Of the 649 persons reported to be living with HIV in the Lansing-East Lansing MSA, 60 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is higher compared to 56 percent statewide. The proportion who are MSM differs by race, however, with 86 percent of white males reporting MSM or MSM/IDU compared to just 59 percent among black males. Fourteen percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Eighteen percent of those living with HIV in this area have heterosexual risk (16 percent female, two percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 14, page 231 for Lansing-East Lansing MSA data and table 8, page 112 of the statewide chapter for statewide data). MSM and IDU therefore make up a greater proportion of the risk among HIV-positive persons in this area than they do statewide, while heterosexuals make up an equal proportion.

Race/ethnicity and sex:

Persons living with HIV in the Lansing-East Lansing MSA are 38 percent white and 22 percent black (table 14). This is quite different than the proportion of cases among black persons and white person in any other out-state MSAs. Still, even though the majority of cases are white, the rate among black persons is five times higher than the rate among white persons (355 cases per 100,000 vs. 67 cases per 100,000, respectively; data not shown in tables). Statewide, a larger proportion of cases are black than are white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Seven percent of persons living with HIV in this area are Hispanic compared to five percent statewide (table 14). The prevalence rate among Hispanics two times higher than the rate among white persons (148 vs. 67 per 100,000, respectively; data not shown in tables). The statewide rate among Hispanics is even higher at 185 cases per 100,000 population (table 8 of statewide chapter).

Of the 649 persons living with HIV in the Lansing-East Lansing MSA, 78 percent are male and 22 percent are female (table 14). The proportion is the same for males and females when compared to the entire state (table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Lansing MSA, 28 percent of those infected with HIV/AIDS have unmet need. Twenty-eight percent of males have unmet need compared to 29 percent of women. This varies by race as 32 percent of Hispanic cases, 49 percent of black cases, 33 percent of white cases, and 4 percent of other/unknown races have unmet need. Forty percent of IDUs have unmet need, compared to 25 percent of MSM/IDU, 27 percent MSM only, 47 percent of male HCFR and 28 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 25-29 year olds (37 percent), 45-49 year olds (32 percent), 50-54 year olds (32 percent), 30-34 year olds (30 percent), and 35-39 year olds (29 percent).

2014 Profile of HIV in Out-State Michigan

Focus on MSAs: Saginaw-Bay City-Midland

Data from enhanced HIV/AIDS Reporting System (eHARS)

Overview and risk:

The Saginaw-Bay City-Midland Metropolitan Statistical Area (MSA) is comprised of Bay, Midland, and Saginaw Counties. This MSA has the lowest rate of all MSAs but is still considered high prevalence with an HIV infection prevalence rate of 96 cases per 100,000 population. An estimated 480 persons are living with HIV in the Saginaw-Bay City-Midland MSA as of January 1, 2014 (table 9 of the statewide chapter).

Of the 375 persons reported to be living with HIV in the Saginaw-Bay City-Midland County, 56 percent are men who have sex with men (MSM), including MSM who also inject drugs (MSM/IDU). This is the same proportion seen statewide. The proportion who are MSM differs by race, however, with 80 percent of white males reporting MSM or MSM/IDU compared to just 60 percent among black males. Ten percent of persons living with HIV in this area are IDU (including MSM/IDU) compared to 13 percent statewide. Eighteen percent of those living with HIV in this area have heterosexual risk (14 percent female, five percent male) compared to 18 percent statewide (14 percent female, four percent male; see table 15, page 232 for Saginaw-Bay City-Midland MSA data and table 8, page 112 of the statewide chapter for statewide data). MSM and heterosexuals therefore make up an equal proportion of the risk among HIV-positive persons in this area as they do statewide, while IDU are less prominent.

Race/ethnicity and sex:

Persons living with HIV in the Saginaw-Bay City-Midland MSA are 46 percent white and 43 percent black (table 15). However, the rate among black persons over seven times higher than the rate among white persons (409 cases per 100,000 vs. 55 cases per 100,000, respectively; data not shown in tables). Statewide, a larger proportion of cases are black than are white (55 percent vs. 35 percent, respectively). The rate among black persons for the entire state is almost nine times the rate among white persons (671 per 100,000 vs. 77 per 100,000, respectively; table 8 of statewide chapter). Six percent of persons living with HIV in this area are Hispanic compared to five percent statewide (table 15). The prevalence rate among Hispanics in this area is more than one and half times that of white persons (96 vs. 55 per 100,000, respectively; data not shown in tables). The statewide rate among Hispanics is higher at 185 cases per 100,000 population (table 8 of statewide chapter).

Of the 375 persons living with HIV in the Saginaw-Bay City-Midland MSA County, 79 percent are male and 21 percent are female (table 15). This is similar to the distribution seen statewide (78 percent male and 22 percent female; table 8 of statewide chapter).

Unmet Need:

Unmet need is calculated by determining the number of persons living with HIV infection in Michigan who were diagnosed prior to October 1, 2012 and have not received a VL or CD4 test between October 1, 2012 and September 30, 2013 (see page 78 of the statewide chapter). Unmet need varies by geography and demographics. In the Saginaw MSA, 40 percent of those infected with HIV/AIDS have unmet need. Forty-two percent of males have unmet need compared to 31 percent of women. This varies by race as 58 percent of Hispanic cases, 49 percent of black cases, 31 percent of white cases, and 25 percent of other/unknown races have unmet need. Thirty-eight percent of IDUs have unmet need, compared to 47 percent of MSM/IDU, 39 percent MSM only, 56 percent of male HCFR and 31 percent of female cases with HCM risk. The highest unmet need by current age group occurs among 50-54 year olds (51 percent), 65 and older (50 percent), 13-19 year olds (50 percent), 30-34 year olds (48 percent), 40-44 year olds (48 percent), and 35-39 year olds (46 percent).

Table 1: Demographic information on HIV infection cases currently living in Out-State Michigan, 2014

	EST PREV*	REPORTED HIV INFECTION PREVALENCE									CENSUS 2012 ESTIMATES†	
		HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis				
		Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num
RACE/ ETHNICITY§												
White	3,830	1,350	50%	1,643	54%	2,993	52%	64	710	43%	4,669,156	83%
Black	2,390	949	35%	922	30%	1,871	32%	453	357	39%	413,262	7%
Hispanic	580	197	7%	257	8%	454	8%	162	134	52%	279,923	5%
Asian/NH/OPI	80	38	1%	26	1%	64	1%	61	10	38%	105,773	2%
AI/AN	30	12	<1%	13	<1%	25	<1%	58	4	31%	43,116	1%
Multi/other/unk	450	165	6%	186	6%	351	6%	N/A	75	40%	111,860	2%
SEX & RACE												
Male	5,810	2,044	75%	2,502	82%	4,546	79%	163	1,101	44%	2,786,133	50%
White male	3,290	1,129	42%	1,445	47%	2,574	45%	112	642	44%	2,306,569	41%
Black male	1,640	621	23%	660	22%	1,281	22%	611	263	40%	209,784	4%
Hispanic male	470	154	6%	213	7%	367	6%	257	118	55%	142,713	3%
Other male	410	140	5%	184	6%	324	6%	255	78	42%	127,067	2%
Female	1,550	667	25%	545	18%	1,212	21%	43	189	35%	2,836,957	50%
White female	540	221	8%	198	6%	419	7%	18	68	34%	2,362,587	42%
Black female	750	328	12%	262	9%	590	10%	290	94	36%	203,478	4%
Hispanic female	110	43	2%	44	1%	87	2%	63	16	36%	137,210	2%
Other female	150	75	3%	41	1%	116	2%	87	11	27%	133,682	2%
RISK†												
Male-male sex (MSM)	3,950	1,433	53%	1,655	54%	3,088	54%	--	688	42%	--	--
Injection drug use (IDU)	480	160	6%	219	7%	379	7%	--	86	39%	--	--
MSM/IDU	360	129	5%	152	5%	281	5%	--	44	29%	--	--
Blood products	50	11	<1%	30	1%	41	1%	--	5	17%	--	--
Heterosexual contact (HC)	1,380	554	20%	523	17%	1,077	19%	--	191	37%	--	--
HCRF (male)	290	100	4%	127	4%	227	4%	--	59	46%	--	--
HCM (female)	1,090	454	17%	396	13%	850	15%	--	132	33%	--	--
Perinatal	100	54	2%	22	1%	76	1%	--	11	50%	--	--
Undetermined	1,040	370	14%	446	15%	816	14%	--	265	59%	--	--
AGE AT HIV DIAGNOSIS												
0 - 12 years	130	71	3%	30	1%	101	2%	--	11	37%	--	--
13 - 19 years	340	165	6%	103	3%	268	5%	--	16	16%	--	--
20 - 24 years	1,050	448	17%	373	12%	821	14%	--	67	18%	--	--
25 - 29 years	1,310	498	18%	527	17%	1,025	18%	--	157	30%	--	--
30 - 39 years	2,550	873	32%	1,120	37%	1,993	35%	--	482	43%	--	--
40 - 49 years	1,400	477	18%	615	20%	1,092	19%	--	369	60%	--	--
50 - 59 years	470	152	6%	218	7%	370	6%	--	146	67%	--	--
60 years and over	110	27	1%	61	2%	88	2%	--	42	69%	--	--
Unspecified	10	0	0%	0	0%	0	0%	--	--	--	--	--
Out-State Total	7,360	2,711	100%	3,047	100%	5,758	100%	102	1,290	42%	5,623,090	100%

*See pages iv-v for descriptions of prevalence estimate calculations. NOTE: prevalence estimates throughout this document are based on the number of people currently living with HIV in Michigan as of January 2014. Prevalence estimates in other MDCH documents are based on the number of people living with HIV who were diagnosed in MI.

[†] See page vi of the Forward for risk category groupings. Risk categories used in Michigan are redefined as of January 2012. NOTE: Heterosexual contact for males includes only males whose sexual partners are known to be HIV infected or at high risk for HIV (HCRF). Heterosexual contact for females includes all females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (HCM).

[§] In this report, persons described as white, black, Asian/Native Hawaiian or Other Pacific Islander (Asian/NH/OPI), or American Indian/Alaskan Native (AI/AN) are all non-Hispanic; persons described as Hispanic may be of any race.

[¶] Rates are not reported for risk categories and age at diagnosis because no reliable denominator data exist for these groups.

Table 2: HIV infection cases currently living in Out-State Michigan by local health department jurisdiction, 2014

**REPORTED HIV INFECTION PREVALENCE (NEED TO ADD CORRECT
STATEWIDE TOTAL ESTIMATE)**

	EST PREV*	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis			CENSUS 2012 ESTIMATES	
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num	Percent
CURRENT RESIDENCE (by LHD jurisdiction)												
Allegan Co.	140	38	1%	71	2%	109	2%	97	29	41%	112,039	2%
Barry/Eaton Co.	160	51	2%	69	2%	120	2%	72	33	48%	166,998	3%
Barry Co.	40	8	<1%	20	1%	28	<1%	47	13	65%	58,990	1%
Eaton Co.	120	43	2%	49	2%	92	2%	85	20	41%	108,008	2%
Bay Co.	100	39	1%	42	1%	81	1%	76	17	40%	106,935	2%
Benzie/Leelanau	20	9	<1%	10	<1%	19	<1%	49	5	50%	39,072	1%
Benzie Co.	10	5	<1%	4	<1%	9	<1%	52	1	25%	17,465	<1%
Leelanau Co.	10	4	<1%	6	<1%	10	<1%	46	4	67%	21,607	<1%
Berrien Co.	340	120	4%	145	5%	265	5%	170	58	40%	156,067	3%
Branch/Hillsdale/St. Joseph	90	35	1%	38	1%	73	1%	48	19	50%	150,893	3%
Branch Co.	20	10	<1%	7	<1%	17	<1%	39	4	57%	43,868	1%
Hillsdale Co.	10	3	<1%	8	<1%	11	<1%	24	4	50%	46,229	1%
St. Joseph Co.	60	22	1%	23	1%	45	1%	74	11	48%	60,796	1%
Calhoun Co.	230	86	3%	93	3%	179	3%	132	26	28%	135,099	2%
Cass-Van Buren	140	50	2%	55	2%	105	2%	82	21	38%	127,696	2%
Cass Co.	40	15	1%	15	<1%	30	1%	57	6	40%	52,242	1%
Van Buren Co.	100	35	1%	40	1%	75	1%	99	15	38%	75,454	1%
Central Michigan District	160	51	2%	70	2%	121	2%	64	30	43%	189,713	3%
Arenac Co.	10	3	<1%	3	<1%	6	<1%	39	2	67%	15,477	<1%
Clare Co.	40	13	<1%	18	1%	31	1%	101	7	39%	30,753	1%
Gladwin Co.	10	2	<1%	4	<1%	6	<1%	24	2	50%	25,484	<1%
Isabella Co.	70	25	1%	27	1%	52	1%	74	10	37%	70,617	1%
Osceola Co.	10	4	<1%	7	<1%	11	<1%	47	4	57%	23,276	<1%
Roscommon Co.	20	4	<1%	11	<1%	15	<1%	62	5	45%	24,106	<1%
Chippewa Co.	30	10	<1%	10	<1%	20	<1%	51	4	40%	38,917	1%
Delta-Menominee	30	14	1%	10	<1%	24	<1%	40	3	30%	60,699	1%
Delta Co.	20	10	<1%	9	<1%	19	<1%	52	2	22%	36,884	1%
Menominee Co.	10	4	<1%	1	<1%	5	<1%	21	1	100%	23,815	<1%
Dickinson-Iron	10	4	<1%	7	<1%	11	<1%	29	5	71%	37,807	1%
Dickson Co.	10	3	<1%	4	<1%	7	<1%	27	2	50%	26220	<1%
Iron Co.	10	1	<1%	3	<1%	4	<1%	35	3	100%	11,587	<1%
District #2	30	8	<1%	13	<1%	21	<1%	32	4	31%	66,021	1%
Alcona Co.	10	0	0%	1	<1%	1	<1%	9	1	100%	10,635	<1%
Iosco Co.	10	4	<1%	5	<1%	9	<1%	35	1	20%	25,357	<1%
Ogemaw Co.	10	2	<1%	5	<1%	7	<1%	33	2	40%	21,437	<1%
Oscoda Co.	10	2	<1%	2	<1%	4	<1%	47	0	0%	8,592	<1%
District #10	170	55	2%	73	2%	128	2%	49	29	40%	261,184	5%
Crawford Co.	10	4	<1%	5	<1%	9	<1%	64	4	80%	14,009	<1%
Kalkaska Co.	10	4	<1%	0	0%	4	<1%	23	--	--	17,099	<1%
Lake Co.	20	5	<1%	9	<1%	14	<1%	122	5	56%	11,498	<1%
Manistee Co.	10	2	<1%	6	<1%	8	<1%	32	2	33%	24,672	<1%
Mason Co.	30	6	<1%	14	<1%	20	<1%	70	6	43%	28,680	1%
Mecosta Co.	30	9	<1%	11	<1%	20	<1%	46	4	36%	43,318	1%
Missaukee Co.	10	5	<1%	2	<1%	7	<1%	47	1	50%	15,031	<1%
Newaygo Co.	40	12	<1%	16	1%	28	<1%	58	3	19%	47,959	1%
Oceana Co.	10	4	<1%	2	<1%	6	<1%	23	2	100%	26,310	<1%
Wexford Co.	20	4	<1%	8	<1%	12	<1%	37	2	25%	32,608	1%

Table 2: HIV infection cases currently living in Out-State Michigan by local health department jurisdiction, 2014

**REPORTED HIV INFECTION PREVALENCE (NEED TO ADD CORRECT
STATEWIDE TOTAL ESTIMATE)**

	EST PREV*	HIV, non-stage 3		HIV, stage 3 (AIDS)		TOTAL		Late HIV diagnosis		CENSUS 2012 ESTIMATES		
	Num	Num	Percent	Num	Percent	Num	Percent	Rate per 100,000	Num	Percent of stage 3 cases	Num	Percent
CURRENT RESIDENCE (by LHD Jurisdiction)												
District #4	50	7	<1%	28	1%	35	1%	45	12	43%	77,674	1%
Alpena Co.	20	3	<1%	11	<1%	14	<1%	48	5	45%	29,234	1%
Cheboygan Co.	20	3	<1%	10	<1%	13	<1%	50	2	20%	25,835	<1%
Montmorency Co.	10	0	0%	4	<1%	4	<1%	42	3	75%	9,476	<1%
Presque Isle Co.	10	1	<1%	3	<1%	4	<1%	30	2	67%	13,129	<1%
Genesee Co.	710	269	10%	288	9%	557	10%	133	113	39%	418,408	7%
Grand Traverse Co.	100	35	1%	40	1%	75	1%	84	19	48%	89,112	2%
Huron Co.	10	3	<1%	6	<1%	9	<1%	28	3	50%	32,463	1%
Ingham Co.	620	238	9%	249	8%	487	8%	173	102	41%	281,723	5%
Ionia Co.	50	18	1%	19	1%	37	1%	58	10	53%	63,941	1%
Jackson Co.	220	76	3%	97	3%	173	3%	108	37	38%	160,309	3%
Kalamazoo Co.	480	189	7%	185	6%	374	6%	147	63	34%	254,580	5%
Kent Co.	1,350	477	18%	581	19%	1,058	18%	172	258	44%	614,462	11%
Lenawee Co.	60	23	1%	21	1%	44	1%	44	11	52%	98,987	2%
Livingston Co.	100	39	1%	42	1%	81	1%	44	21	50%	182,838	3%
LMAS District	20	8	<1%	6	<1%	14	<1%	39	0	0%	35,543	1%
Alger Co.	10	1	<1%	3	<1%	4	<1%	42	0	0%	9,541	<1%
Luce Co.	10	1	<1%	1	<1%	2	<1%	31	0	0%	6,522	<1%
Mackinac Co.	10	5	<1%	1	<1%	6	<1%	54	0	0%	11,137	<1%
Schoolcraft Co.	10	1	<1%	1	<1%	2	<1%	24	--	--	8,343	<1%
Marquette Co.	50	13	<1%	29	1%	42	1%	62	19	66%	67,906	1%
Mid-Michigan District	150	64	2%	54	2%	118	2%	65	21	39%	181,161	3%
Clinton Co.	90	37	1%	33	1%	70	1%	92	8	24%	76,001	1%
Gratiot Co.	20	10	<1%	6	<1%	16	<1%	38	4	67%	42,063	1%
Montcalm Co.	40	17	1%	15	<1%	32	1%	51	9	60%	63,097	1%
Midland Co.	40	15	1%	14	<1%	29	1%	35	8	57%	83,822	1%
Muskegon Co.	210	84	3%	80	3%	164	3%	96	34	43%	170,182	3%
Northwest Michigan Dist.	70	23	1%	30	1%	53	1%	50	14	47%	106,364	2%
Antrim Co.	20	6	<1%	8	<1%	14	<1%	60	3	38%	23,406	<1%
Charlevoix Co.	10	3	<1%	8	<1%	11	<1%	42	3	38%	26,023	<1%
Emmet Co.	20	8	<1%	5	<1%	13	<1%	39	4	80%	32,915	1%
Otsego Co.	20	6	<1%	9	<1%	15	<1%	62	4	44%	24,020	<1%
Ottawa Co.	160	53	2%	75	2%	128	2%	48	41	55%	269,099	5%
Saginaw Co.	340	134	5%	131	4%	265	5%	134	54	41%	198,353	4%
Sanilac Co.	30	12	<1%	10	<1%	22	<1%	52	5	50%	42,268	1%
Shiawassee Co.	40	16	1%	15	<1%	31	1%	45	8	53%	69,232	1%
Tuscola Co.	10	6	<1%	4	<1%	10	<1%	18	1	25%	54,662	1%
Washtenaw Co.	830	329	12%	323	11%	652	11%	186	145	45%	350,946	6%
Western Upper Pen. Dist.	30	10	<1%	14	<1%	24	<1%	34	7	50%	69,915	1%
Baraga Co.	10	1	<1%	3	<1%	4	<1%	46	2	67%	8,683	<1%
Gogebic Co.	10	2	<1%	2	<1%	4	<1%	25	1	50%	16,084	<1%
Houghton Co.	20	7	<1%	6	<1%	13	<1%	36	2	33%	36,520	1%
Keweenaw Co.	10	0	0%	0	0%	0	0%	0	--	--	2,215	<1%
Ontonagon Co.	10	0	0%	3	<1%	3	<1%	47	2	67%	6,413	<1%
Out-State Total	7,360	2,711	100%	3,047	100%	5,758	100%	102	1,290	42%	5,623,090	100%

TABLE 3. Risk transmission and exposure categories for HIV infection cases currently living in Out-State Michigan by sex, 2014

REPORTED HIV INFECTION PREVALENCE						
	Male		Female		Overall	
	Num	Percent	Num	Percent	Num	Percent
RISK TRANSMISSION CATEGORIES (CDC Hierarchy)*§						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-male sex (MSM)	3,088	68%	0	--	3,088	54%
Injection drug use (IDU)	211	5%	168	14%	379	7%
MSM/IDU	281	6%	0	--	281	5%
Blood products	36	1%	5	<1%	41	1%
Heterosexual contact (HC)	227	5%	850	70%	1,077	19%
HCFR (male)	227	5%	0	--	227	4%
HCM (female)	0	--	850	70%	850	15%
Perinatal	37	1%	39	3%	76	1%
Undetermined	666	15%	150	12%	816	14%
EXPOSURE CATEGORIES**†						
(Mutually Exclusive: one case is represented in ONLY one category)						
Male-male sex only	2,099	46%	N/A	--	2,099	36%
MSM & HC	968	21%	N/A	--	968	17%
MSM & IDU	142	3%	N/A	--	142	2%
MSM & blood products	10	<1%	N/A	--	10	<1%
MSM & HC & IDU	133	3%	N/A	--	133	2%
MSM & HC & blood products	11	<1%	N/A	--	11	<1%
MSM & IDU & blood products	1	<1%	N/A	--	1	<1%
MSM & HC & IDU & blood products	5	<1%	N/A	--	5	<1%
Heterosexual contact only	695	15%	932	77%	1,627	28%
HC & IDU	172	4%	157	13%	329	6%
HC & blood products	24	1%	17	1%	41	1%
HC & IDU & blood products	4	<1%	3	<1%	7	<1%
Injection drug use only	34	1%	9	1%	43	1%
IDU & blood products	1	<1%	0	0%	1	<1%
Perinatal exposure	37	1%	39	3%	76	1%
Exposure to blood products only	19	<1%	0	0%	19	<1%
Undetermined	191	4%	55	5%	246	4%
TOTAL	4,546	100%	1,212	100%	5,758	100%
SUMMARIZED EXPOSURE CATEGORIES*						
(NOT Mutually Exclusive: one case may be represented in multiple categories)						
Any MSM	3,369	74%	N/A	--	3,369	59%
Behaviorally bisexual men	1,117	25%	N/A	--	1,117	19%
Any heterosexual contact	2,012	44%	1,109	92%	3,121	54%
Any IDU	492	11%	169	14%	661	11%

*See page vi for descriptions of risk transmission and exposure categories.

§ Risk transmission categories are grouped based on hierarchical categories determined by the CDC. Any one person with multiple risks is only represented in the highest category, with the exception of MSM/IDU (based on the hierarchical algorithm).

† Exposure categories are mutually exclusive and grouped to allow all possible combinations of exposures that any one person may have. NOTE: Heterosexual contact (HC) in exposure categories includes males and females who had heterosexual contact, regardless of what is known about their partners' risk or HIV status.

* Summarized exposure categories are NOT mutually exclusive, i.e. a case may be represented in multiple categories. These summarized categories are meant to give a broader picture of exposure and will NOT add up to the total number of persons living with HIV infection.

Table 4: Sex, race, and risk among HIV infection cases currently living in Out-State Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1,963	76%	707	55%	217	59%	201	62%	3,088	68%
Injection drug use (IDU)	82	3%	89	7%	24	7%	16	5%	211	5%
MSM/IDU	166	6%	57	4%	28	8%	30	9%	281	6%
Blood products	28	1%	6	<1%	0	0%	2	1%	36	1%
Heterosexual contact (HCFR)	68	3%	116	9%	31	8%	12	4%	227	5%
Perinatal	9	<1%	18	1%	4	1%	6	2%	37	1%
Undetermined	258	10%	288	22%	63	17%	57	18%	666	15%
Male Subtotal	2,574	57%	1,281	28%	367	8%	324	7%	4,546	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	73	17%	70	12%	13	15%	12	10%	167	14%
Blood products	4	1%	0	0%	0	0%	1	1%	5	<1%
Heterosexual contact (HCM)	291	69%	414	70%	65	75%	80	69%	848	70%
Perinatal	7	2%	22	4%	6	7%	4	3%	39	3%
Undetermined	44	11%	84	14%	3	3%	19	16%	150	12%
Female Subtotal	419	35%	590	49%	87	7%	116	10%	1,209	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	1,963	66%	707	38%	217	48%	201	46%	3,088	54%
Injection drug use (IDU)	155	5%	159	8%	37	8%	28	6%	378	7%
MSM/IDU	166	6%	57	3%	28	6%	30	7%	281	5%
Blood products	32	1%	6	<1%	0	0%	3	1%	41	1%
Heterosexual contact (HC)	359	12%	530	28%	96	21%	92	21%	1,075	19%
HCFR (male)	68	2%	116	6%	31	7%	12	3%	227	4%
HCM (female)	291	10%	414	22%	65	14%	80	18%	848	15%
Perinatal	16	1%	40	2%	10	2%	10	2%	76	1%
Undetermined	302	10%	372	20%	66	15%	76	17%	816	14%
RACE ALL	2,993	52%	1,871	33%	454	8%	440	8%	5,755	100%

Table 5: Sex, race, and age at HIV diagnosis among HIV infection cases Ccurrently living in Out-State Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	19	1%	23	2%	4	1%	7	2%	53	1%
13 - 19 years	50	2%	103	8%	9	2%	19	6%	181	4%
20 - 24 years	268	10%	248	19%	49	13%	53	16%	618	14%
25 - 29 years	443	17%	234	18%	76	21%	52	16%	805	18%
30 - 39 years	986	38%	379	30%	141	38%	116	36%	1,622	36%
40 - 49 years	562	22%	224	17%	63	17%	50	15%	899	20%
50 - 59 years	196	8%	57	4%	20	5%	23	7%	296	7%
60 years and over	50	2%	13	1%	5	1%	4	1%	72	2%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%
Male Subtotal	2,574	57%	1,281	28%	367	8%	324	7%	4,546	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	10	2%	28	5%	6	7%	4	3%	48	4%
13 - 19 years	33	8%	41	7%	6	7%	7	6%	87	7%
20 - 24 years	88	21%	85	14%	13	15%	17	15%	203	17%
25 - 29 years	72	17%	104	18%	21	24%	23	20%	220	18%
30 - 39 years	130	31%	173	29%	28	32%	40	34%	371	31%
40 - 49 years	52	12%	116	20%	10	11%	15	13%	193	16%
50 - 59 years	29	7%	33	6%	3	3%	9	8%	74	6%
60 years and over	5	1%	10	2%	0	0%	1	1%	16	1%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%
Female Subtotal	419	35%	590	49%	87	7%	116	10%	1,212	100%

ALL	White		Black		Hispanic		Other or unknown		Age all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
0 - 12 years	29	1%	51	3%	10	2%	11	3%	101	2%
13 - 19 years	83	3%	144	8%	15	3%	26	6%	268	5%
20 - 24 years	356	12%	333	18%	62	14%	70	16%	821	14%
25 - 29 years	515	17%	338	18%	97	21%	75	17%	1,025	18%
30 - 39 years	1,116	37%	552	30%	169	37%	156	35%	1,993	35%
40 - 49 years	614	21%	340	18%	73	16%	65	15%	1,092	19%
50 - 59 years	225	8%	90	5%	23	5%	32	7%	370	6%
60 years and over	55	2%	23	1%	5	1%	5	1%	88	2%
Unknown	0	0%	0	0%	0	0%	0	0%	0	0%
RACE ALL	2,993	52%	1,871	32%	454	8%	440	8%	5,758	100%

Table 6: Sex, Risk and Age at HIV Diagnosis Among HIV Infection Cases Currently Living in Out-State Michigan, 2014

MALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	138	76%	485	78%	578	72%	1,107	68%	556	62%	182	61%	42	58%	3,088	68%
Injection drug use	0	0%	1	1%	13	2%	32	4%	83	5%	60	7%	20	7%	2	3%	211	5%
MSM/IDU	0	0%	3	2%	41	7%	68	8%	115	7%	47	5%	7	2%	0	0%	281	6%
Blood products	9	17%	9	5%	5	1%	6	1%	5	<1%	1	<1%	1	<1%	0	0%	36	1%
Heterosexual contact (HCFR)	0	0%	4	2%	17	3%	44	5%	86	5%	52	6%	21	7%	3	4%	227	5%
Perinatal	35	66%	2	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	37	1%
Undetermined	9	17%	24	13%	57	9%	77	10%	226	14%	183	20%	65	22%	25	35%	666	15%
Male Subtotal	53	1%	181	4%	618	14%	805	18%	1,622	36%	899	20%	296	7%	72	2%	4,546	100%
FEMALE	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use	0	0%	6	7%	24	12%	36	16%	62	17%	26	13%	11	15%	3	19%	168	14%
Blood products	0	0%	0	0%	1	<1%	0	0%	2	1%	0	0%	2	3%	0	0%	5	<1%
Heterosexual contact (HCM)	0	0%	71	82%	159	78%	155	70%	264	71%	141	73%	52	70%	8	50%	850	70%
Perinatal	37	77%	2	2%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	39	3%
Undetermined	11	23%	8	9%	19	9%	29	13%	43	12%	26	13%	9	12%	5	31%	150	12%
Female Subtotal	48	4%	87	7%	203	17%	220	18%	371	31%	193	16%	74	6%	16	1%	1,212	100%
TOTAL	0 - 12 years		13 - 19 years		20 - 24 years		25 - 29 years		30 - 39 years		40 - 49 years		50 - 59 years		60 years and over		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex	0	0%	138	51%	485	59%	578	56%	1,107	56%	556	51%	182	49%	42	48%	3,088	54%
Injection drug use	0	0%	7	3%	37	5%	68	7%	145	7%	86	8%	31	8%	5	6%	379	7%
MSM/IDU	0	0%	3	1%	41	5%	68	7%	115	6%	47	4%	7	2%	0	0%	281	5%
Blood products	9	9%	9	3%	6	1%	6	1%	7	<1%	1	<1%	3	1%	0	0%	41	1%
Heterosexual contact (HC)	0	0%	75	28%	176	21%	199	19%	350	18%	193	18%	73	20%	11	13%	1,077	19%
HCFR (male)	0	0%	4	1%	17	2%	44	4%	86	4%	52	5%	21	6%	3	3%	227	4%
HCM (female)	0	0%	71	26%	159	19%	155	15%	264	13%	141	13%	52	14%	8	9%	850	15%
Perinatal	72	71%	4	1%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	76	1%
Undetermined	20	20%	32	12%	76	9%	106	10%	269	13%	209	19%	74	20%	30	34%	816	14%
AGE TOTAL	101	2%	268	5%	821	14%	1,025	18%	1,993	35%	1,092	19%	370	6%	88	2%	5,758	100%

Table 7: Gonorrhea, syphilis, and chlamydia cases by sex, race and age group, Out-State Michigan, 2013

	Gonorrhea			P&S syphilis*			Chlamydia			CENSUS 2012 ESTIMATES	
	Num	Percent	Rate[^]	Num	Percent	Rate[^]	Num	Percent	Rate[^]	Num	Percent
RACE/ ETHNICITY											
White	924	23%	19.8	50	52%	1.1	8,394	38%	179.8	4,669,156	83%
Black	2,130	54%	515.4	33	34%	8.0	6,975	31%	1687.8	413,262	7%
Hispanic	120	3%	42.9	6	6%	2.1	888	4%	317.2	279,923	5%
Other/multi	89	2%	34.1	6	6%	2.3	630	3%	241.6	260,749	5%
Unknown race	706	18%	N/A	1	1%	N/A	5,420	24%	N/A	N/A	N/A
SEX & RACE											
Male	1,748	44%	62.7	93	97%	3.3	6,358	29%	228.2	2,786,133	50%
White male	389	10%	16.9	49	51%	2.1	2,018	9%	87.5	2,306,569	41%
Black male	962	24%	458.6	31	32%	14.8	2,341	10%	1115.9	209,784	4%
Hispanic male	43	1%	30.1	6	6%	4.2	253	1%	177.3	142,713	3%
Other male	32	1%	25.2	6	6%	4.7	181	1%	142.4	127,067	2%
Unknown male	322	8%	N/A	1	1%	N/A	1,565	7%	N/A	N/A	N/A
Female	2,219	56%	78.2	3	3%	0.1	15,940	71%	561.9	2,836,957	50%
White female	535	13%	22.6	1	1%	0.0	6,373	29%	269.7	2,362,587	42%
Black female	1,167	29%	573.5	2	2%	1.0	4,629	21%	2274.9	203,478	4%
Hispanic female	77	2%	56.1	0	0%	0.0	635	3%	462.8	137,210	2%
Other female	57	1%	42.6	0	0%	0.0	449	2%	335.9	133,682	2%
Unknown female	383	10%	N/A	0	0%	N/A	3,854	17%	N/A	N/A	N/A
Unknown sex - all races	2	<1%	N/A	0	0%	N/A	9	<1%	N/A	N/A	N/A
Age											
0-4 years	2	<1%	0.6	0	0%	0.0	15	<1%	4.6	324,756	6%
5-9 years	1	<1%	0.3	0	0%	0.0	1	<1%	0.3	349,400	6%
10-14 years	38	1%	10.3	0	0%	0.0	230	1%	62.6	367,254	7%
15-19 years	1,045	26%	257.6	9	9%	2.2	7,036	32%	1734.5	405,643	7%
20-24 years	1,490	38%	339.5	31	32%	7.1	9,353	42%	2130.8	438,942	8%
25-29 years	655	17%	195.6	20	21%	6.0	3,262	15%	974.0	334,918	6%
30-34 years	331	8%	100.0	14	15%	4.2	1,312	6%	396.3	331,093	6%
35-39 years	149	4%	48.2	7	7%	2.3	554	2%	179.0	309,414	6%
40-44 years	97	2%	27.4	4	4%	1.1	263	1%	74.4	353,584	6%
45-54 years	112	3%	13.9	7	7%	0.9	206	1%	25.5	806,380	14%
55-64 years	29	1%	3.8	3	3%	0.4	45	<1%	6.0	755,086	13%
65 and over	13	<1%	1.5	1	1%	0.1	19	<1%	2.2	846,620	15%
Unknown age	7	<1%	N/A	0	0%	N/A	11	<1%	N/A	N/A	N/A
Total	3,969	100%	70.6	96	100%	1.7	22,307	100%	396.7	5,623,090	100%

* P&S: Primary and secondary syphilis.

[^] Rate per 100,000 population.

Table 8: Sex, race, and risk among HIV infection cases currently living in the Ann Arbor MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	226	80%	135	66%	25	71%	12	86%	398	74%
Injection drug use (IDU)	7	2%	15	7%	<5	**	0	0%	23	4%
MSM/IDU	23	8%	6	3%	<5	**	<5	**	31	6%
Blood Products	<5	**	0	0%	0	0%	0	0%	<5	**
Heterosexual contact (HCFR)	5	2%	9	4%	<5	**	0	0%	17	3%
Perinatal	<5	**	<5	**	<5	**	0	0%	<5	**
Undetermined	18	6%	38	19%	<5	**	<5	**	61	11%
Male Subtotal	282	53%	204	38%	35	7%	14	3%	535	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	6	20%	14	19%	0	0%	0	0%	20	17%
Blood products	<5	**	0	0%	0	0%	0	0%	<5	**
Heterosexual contact (HCM)	19	63%	51	70%	6	100%	7	88%	83	71%
Perinatal	<5	**	<5	**	0	0%	0	0%	<5	**
Undetermined	<5	**	6	8%	0	0%	<5	**	8	7%
Female Subtotal	30	26%	73	62%	6	5%	8	7%	117	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	226	72%	135	49%	25	61%	12	55%	398	61%
Injection drug use (IDU)	13	4%	29	10%	<5	**	0	0%	43	7%
MSM/IDU	23	7%	6	2%	<5	**	<5	**	31	5%
Blood products	<5	**	0	0%	0	0%	0	0%	<5	**
Heterosexual contact (HC)	24	8%	60	22%	9	22%	7	32%	100	15%
HCFR (male)	5	2%	9	3%	<5	**	0	0%	17	3%
HCM (female)	19	6%	51	18%	6	15%	7	32%	83	13%
Perinatal	<5	**	<5	**	<5	**	0	0%	7	1%
Undetermined	19	6%	44	16%	<5	**	<5	**	69	11%
RACE ALL	312	48%	277	42%	41	6%	22	3%	652	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Washtenaw County

Table 9: Sex, race, and risk among HIV infection cases currently living in the Benton Harbor MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	56	81%	39	42%	5	33%	<5	**	104	58%
Injection drug use (IDU)	<5	**	7	8%	<5	**	0	0%	11	6%
MSM/IDU	<5	**	<5	**	<5	**	0	0%	7	4%
Blood products	<5	**	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HCFR)	<5	**	13	14%	<5	**	0	0%	17	9%
Perinatal	0	0%	<5	**	0	0%	0	0%	<5	**
Undetermined	<5	**	26	28%	7	47%	0	0%	37	21%
Male Subtotal	69	38%	92	51%	15	8%	<5	2%	180	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	<5	**	5	8%	<5	**	<5	**	10	12%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	10	59%	46	73%	<5	**	<5	**	59	69%
Perinatal	0	0%	<5	**	0	0%	0	0%	<5	**
Undetermined	<5	**	11	17%	0	0%	0	0%	15	18%
Female Subtotal	17	20%	63	74%	<5	2%	<5	4%	85	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-Male sex (MSM)	56	65%	39	25%	5	29%	<5	**	104	39%
Injection drug use (IDU)	6	7%	12	8%	<5	**	<5	**	21	8%
MSM/IDU	<5	**	<5	**	<5	**	0	0%	7	3%
Blood products	<5	**	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HC)	13	15%	59	38%	<5	**	<5	**	76	29%
HCFR (male)	<5	**	13	8%	<5	**	0	0%	17	6%
HCM (female)	10	12%	46	30%	<5	**	<5	**	59	22%
Perinatal	0	0%	<5	**	0	0%	0	0%	<5	**
Undetermined	8	9%	37	24%	7	41%	0	0%	52	20%
RACE ALL	86	32%	155	58%	17	6%	7	3%	265	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Berrien County

Table 10: Sex, race, and risk among HIV infection cases currently living in the Flint MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	145	69%	140	66%	8	80%	9	56%	302	68%
Injection drug use (IDU)	9	4%	6	3%	0	0%	<5	**	16	4%
MSM/IDU	11	5%	<5	**	0	0%	0	0%	15	3%
Blood products	<5	**	0	0%	0	0%	0	0%	<5	**
Heterosexual contact (HCFR)	5	2%	14	7%	<5	**	<5	**	22	5%
Perinatal	0	0%	<5	**	0	0%	<5	**	<5	**
Undetermined	38	18%	46	22%	0	0%	<5	**	88	20%
Male Subtotal	210	47%	211	47%	10	2%	16	4%	447	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	<5	**	10	16%	0	0%	0	0%	12	11%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	29	76%	37	60%	<5	**	5	100%	75	68%
Perinatal	0	0%	<5	**	0	0%	0	0%	<5	**
Undetermined	7	18%	13	21%	<5	**	0	0%	21	19%
Female Subtotal	38	35%	62	56%	5	**	5	**	110	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	145	58%	140	51%	8	53%	9	43%	302	54%
Injection drug use (IDU)	11	4%	16	6%	0	0%	<5	**	28	5%
MSM/IDU	11	4%	<5	**	0	0%	0	0%	15	3%
Blood products	<5	**	0	0%	0	0%	0	0%	<5	**
Heterosexual contact (HC)	34	14%	51	19%	6	40%	6	29%	97	17%
HCFR (male)	5	2%	14	5%	<5	**	<5	**	22	4%
HCM (female)	29	12%	37	14%	<5	**	5	24%	75	13%
Perinatal	0	0%	<5	**	0	0%	<5	**	<5	**
Undetermined	45	18%	59	22%	<5	**	<5	**	109	20%
RACE ALL	248	45%	273	49%	15	3%	21	4%	557	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Genesee County

Table 11: Sex, race, and risk among HIV infection cases currently living in the Grand Rapids-Muskegon-Holland MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	528	80%	143	49%	86	54%	20	51%	777	68%
Injection drug use (IDU)	16	2%	22	8%	13	8%	<5	**	53	5%
MSM/IDU	41	6%	21	7%	14	9%	<5	**	80	7%
Blood products	5	1%	0	0%	0	0%	0	0%	5	<1%
Heterosexual contact (HCFR)	12	2%	33	11%	14	9%	<5	**	62	5%
Perinatal	<5	**	6	2%	<5	**	0	0%	11	1%
Undetermined	52	8%	64	22%	30	19%	10	26%	156	14%
Male Subtotal	657	57%	289	25%	159	14%	39	**	1144	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	7	9%	17	9%	6	16%	<5	**	32	10%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	59	79%	140	75%	28	74%	11	73%	238	76%
Perinatal	<5	**	10	5%	<5	**	0	0%	15	5%
Undetermined	8	11%	20	11%	0	0%	<5	**	30	10%
Female Subtotal	75	24%	187	59%	38	**	15	**	315	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	528	72%	143	30%	86	44%	20	37%	777	53%
Injection drug use (IDU)	23	3%	39	8%	19	10%	<5	**	85	6%
MSM/IDU	41	6%	21	4%	14	7%	<5	**	80	5%
Blood products	5	1%	0	0%	0	0%	0	0%	5	<1%
Heterosexual contact (HC)	71	10%	173	36%	42	21%	14	26%	300	21%
HCFR (male)	12	2%	33	7%	14	7%	<5	**	62	4%
HCM (female)	59	8%	140	29%	28	14%	11	20%	238	16%
Perinatal	<5	**	16	3%	6	3%	0	0%	26	2%
Undetermined	60	8%	84	18%	30	15%	12	22%	186	13%
RACE ALL	732	50%	476	33%	197	14%	54	**	1459	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Allegan, Kent, Muskegon, and Ottawa Counties

Table 12: Sex, race, and risk among HIV infection cases currently living in the Jackson MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	68	73%	12	33%	<5	**	<5	**	86	62%
Injection drug use (IDU)	<5	**	5	14%	0	0%	<5	**	8	6%
MSM/IDU	<5	**	<5	**	0	0%	0	0%	5	4%
Blood products	<5	**	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HCFR)	<5	**	<5	**	0	0%	0	0%	5	4%
Perinatal	0	0%	0	0%	0	0%	<5	**	<5	**
Undetermined	16	17%	14	39%	<5	**	<5	**	32	23%
Male Subtotal	93	67%	36	26%	<5	3%	6	**	139	100%

FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	<5	**	<5	**	<5	**	0	0%	<5	**
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	18	90%	5	56%	<5	**	<5	**	27	79%
Perinatal	0	0%	0	0%	0	0%	0	0%	0	0%
Undetermined	<5	**	<5	**	0	0%	0	0%	<5	**
Female Subtotal	20	59%	9	26%	<5	**	<5	**	34	100%

ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	68	60%	12	27%	<5	**	<5	**	86	50%
Injection drug use (IDU)	<5	**	6	13%	<5	**	<5	**	11	6%
MSM/IDU	<5	**	<5	**	0	0%	0	0%	5	3%
Blood products	<5	**	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HC)	20	18%	8	18%	<5	**	<5	**	32	18%
HCFR (male)	<5	**	<5	**	0	0%	0	0%	5	3%
HCM (female)	18	16%	5	11%	<5	**	<5	**	27	16%
Perinatal	0	0%	0	0%	0	0%	<5	**	<5	**
Undetermined	17	15%	17	38%	<5	**	<5	**	36	21%
RACE ALL	113	65%	45	26%	6	3%	9	**	173	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Jackson County

Table 13: Sex, race, and risk among HIV infection cases currently living in the Kalamazoo-Battle Creek MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	184	78%	92	59%	11	61%	10	48%	297	69%
Injection drug use (IDU)	7	3%	14	9%	<5	**	<5	**	24	6%
MSM/IDU	12	5%	5	3%	<5	**	<5	**	19	4%
Blood products	<5	**	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HCFR)	7	3%	19	12%	<5	**	<5	**	28	7%
Perinatal	0	0%	<5	**	0	0%	<5	**	<5	**
Undetermined	24	10%	22	14%	<5	**	7	33%	56	13%
Male Subtotal	235	55%	155	36%	18	4%	21	**	429	100%
FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	7	16%	11	17%	<5	**	0	0%	19	15%
Blood products	<5	**	0	0%	0	0%	0	0%	<5	**
Heterosexual contact (HCM)	28	64%	47	71%	<5	**	6	50%	82	66%
Perinatal	<5	**	<5	**	0	0%	<5	**	5	4%
Undetermined	7	16%	7	11%	0	0%	<5	**	17	14%
Female Subtotal	44	35%	66	53%	<5	**	12	**	124	100%
ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	184	66%	92	42%	11	55%	10	30%	297	54%
Injection drug use (IDU)	14	5%	25	11%	<5	**	<5	**	43	8%
MSM/IDU	12	4%	5	2%	<5	**	<5	**	19	3%
Blood products	<5	**	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HC)	35	13%	66	30%	<5	**	7	21%	110	20%
HCFR (male)	7	3%	19	9%	<5	**	<5	**	28	5%
HCM (female)	28	10%	47	21%	<5	**	6	18%	82	15%
Perinatal	<5	**	<5	**	0	0%	<5	**	8	1%
Undetermined	31	11%	29	13%	<5	**	10	30%	73	13%
RACE ALL	279	50%	221	40%	20	4%	33	**	553	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Calhoun and Kalamazoo Counties

Table 14: Sex, race, and risk among HIV infection cases currently living in the Lansing-East Lansing MSA†, Michigan, 2014

MALE	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	166	77%	45	50%	25	71%	109	67%	345	68%
Injection drug use (IDU)	7	3%	<5	**	<5	**	6	4%	21	4%
MSM/IDU	19	9%	8	9%	<5	**	16	10%	45	9%
Blood products	<5	**	<5	**	0	0%	<5	**	7	1%
Heterosexual contact (HCFR)	<5	**	8	9%	0	0%	5	3%	16	3%
Perinatal	<5	**	<5	**	0	0%	<5	**	<5	**
Undetermined	17	8%	21	23%	<5	**	24	15%	66	13%
Male Subtotal	216	43%	90	18%	35	7%	163	**	504	100%
FEMALE	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	7	25%	6	11%	<5	**	7	13%	22	15%
Blood products	0	0%	0	0%	0	0%	<5	**	<5	**
Heterosexual contact (HCM)	19	68%	40	74%	7	78%	36	67%	102	70%
Perinatal	0	0%	<5	**	0	0%	0	0%	<5	**
Undetermined	<5	**	6	11%	0	0%	10	19%	18	12%
Female Subtotal	28	19%	54	37%	9	**	54	**	145	100%
ALL	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	166	68%	45	31%	25	57%	109	50%	345	53%
Injection drug use (IDU)	14	6%	10	7%	6	14%	13	6%	43	7%
MSM/IDU	19	8%	8	6%	<5	**	16	7%	45	7%
Blood products	<5	**	<5	**	0	0%	<5	**	8	1%
Heterosexual contact (HC)	22	9%	48	33%	7	16%	41	19%	118	18%
HCFR (male)	<5	**	8	6%	0	0%	5	2%	16	2%
HCM (female)	19	8%	40	28%	7	16%	36	17%	102	16%
Perinatal	<5	**	<5	**	0	0%	<5	**	6	1%
Undetermined	19	8%	27	19%	<5	**	34	16%	84	13%
RACE ALL	244	38%	144	22%	44	7%	217	**	649	100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Clinton, Eaton, and Ingham Counties

Table 15: Sex, race, and risk among HIV infection cases currently living in the Saginaw-Bay City-Midland MSA†, Michigan, 2014

MALE

	White		Black		Hispanic		Other or unknown		All male	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	109	75%	66	55%	11	65%	8	62%	194	66%
Injection drug use (IDU)	<5	**	7	6%	0	0%	0	0%	11	4%
MSM/IDU	7	5%	6	5%	<5	**	0	0%	16	5%
Blood products	0	0%	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HCFR)	6	4%	9	7%	<5	**	<5	**	17	6%
Perinatal	0	0%	<5	**	0	0%	0	0%	<5	**
Undetermined	19	13%	31	26%	<5	**	<5	**	56	19%
Male Subtotal	145	49%	121	41%	17	6%	13	**	296	100%

FEMALE

	White		Black		Hispanic		Other or unknown		All female	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Injection drug use (IDU)	7	25%	<5	**	<5	**	<5	**	12	15%
Blood products	0	0%	0	0%	0	0%	0	0%	0	0%
Heterosexual contact (HCM)	19	68%	27	66%	<5	**	<5	**	52	66%
Perinatal	<5	**	<5	**	0	0%	0	0%	<5	**
Undetermined	<5	**	11	27%	0	0%	<5	**	13	16%
Female Subtotal	28	35%	41	52%	5	**	5	**	79	100%

ALL

	White		Black		Hispanic		Other or unknown		Risk all	
	Num	Percent	Num	Percent	Num	Percent	Num	Percent	Num	Percent
Male-male sex (MSM)	109	63%	66	41%	11	50%	8	44%	194	52%
Injection drug use (IDU)	11	6%	9	6%	<5	**	<5	**	23	6%
MSM/IDU	7	4%	6	4%	<5	**	0	0%	16	4%
Blood products	0	0%	<5	**	0	0%	0	0%	<5	**
Heterosexual contact (HC)	25	14%	36	22%	5	23%	<5	**	69	18%
HCFR (male)	6	3%	9	6%	<5	**	<5	**	17	5%
HCM (female)	19	11%	27	17%	<5	**	<5	**	52	14%
Perinatal	<5	**	<5	**	0	0%	0	0%	<5	**
Undetermined	20	12%	42	26%	<5	**	5	28%	69	18%

RACE ALL

173 46% 162 43% 22 6% 18 ** 375 100%

* <5 and *** = 1, 2, 3, or 4 cases.

† Metropolitan Statistical Area: consists of Bay, Midland, and Saginaw Counties

APPENDIX A: GLOSSARY OF COMMONLY USED TERMS

Anonymous HIV test: A person tests for HIV without providing his/her name or other identifying information. These cases are not included in the reported number of persons living with HIV in Michigan, as there is no way to de-duplicate cases.

Antiretroviral (ARV): drug that inhibits the process by which the HIV virus replicates; used to treat HIV.

ARV prophylaxis: protection from or prevention of HIV infection using ARV(s).

Blood recipient: All hemophiliacs, blood transfusion recipients, and organ recipients who received blood products prior to 1985 and all persons documented to have ever received a HIV-infected organ or unit of blood.

Case: A person who is reported to the Michigan Department of Community Health as being HIV-positive.

Confidential HIV test: A person testing for HIV provides his/her name and other identifying information, and this information is reported to the health department. Patient information remains confidential.

Core Based Statistical Area (CBSA): A statistical geographic entity defined by the U.S. Office of Management and Budget (OMB), consisting of the county or counties associated with at least one core (urban area) of at least 10,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties with the counties containing the core. Metropolitan and micropolitan statistical areas are the two types of CBSAs.

Metropolitan Statistical Area (MSA): A core based statistical area (CBSA) associated with at least one urbanized area that has a population of at least 50,000. A metropolitan statistical area comprises a central county or counties containing the urbanized area, plus adjacent outlying counties having a high degree of social and economic integration with the central county as measured by commuting.

Currently living with HIV infection: This population is obtained by calculating the number of persons currently alive and residing in Michigan as of January 1, 2014, using the most recent address information available. It is impossible to track all residence changes among HIV-positive persons; thus, numbers should be viewed as minimum estimates of persons currently living with HIV in Michigan.

eHARS: The enhanced HIV/AIDS Reporting System, a standardized database developed by the CDC for national reporting of HIV.

Epidemiology: The study of the distribution, determinates, and frequency of diseases in humans.

GIS (Geographic Information System): The display and analysis of geographic data in map format.

HAART: Highly Active Antiretroviral Therapy.

Heterosexual contact (HC):

Heterosexual contact w/ female w/ risk (HCFR): Males whose female sexual partners are known to be HIV-infected or at high risk for HIV. These partners meet one of the following criteria: IDU, hemophili-

ac, HIV infected transfusion recipient, or other HIV infected person of unknown risk (applies to risk transmission categories).

Heterosexual contact w/ female (HCF): Males who have had sex with a female regardless of what is known about the female's HIV status or behaviors (applies to exposure categories).

Heterosexual contact w/ male (HCM): Females who have had sex with a male regardless of what is known about the male's HIV status or behaviors (applies to both risk transmission and exposure categories).

The language and presentation of the heterosexual categories recently changed. Formerly, females with heterosexual contact were divided into high-risk heterosexuals (HRH, where male partners' risk factors were known) and presumed heterosexual contact (PH-Fem, sex with males of unknown risk). This distinction is no longer drawn for females, although males must still have partners with known risks in order to be classified as heterosexual.

HIV (Human Immunodeficiency Virus): Diagnosis with HIV requires both a positive HIV screening and positive supplemental antibody test or detectable quantity on a virologic test. A standard case definition for HIV infection is used by all states for surveillance. Specific information is required in order to count a case of HIV infection, including a method to uniquely identify an individual. Each case is classified in a HIV infection stage (see below). Once a case reaches stage 3 (AIDS), the case is always considered stage 3 for surveillance purposes, even if his/her health improves (MMWR; December 5, 2008 / Vol. 57 / No. RR--10 / Pg. 1 - 12).

HIV infection stages:

Stage 1: A case does not have any of the conditions associated with severe HIV infection (called an AIDS-defining condition) and has ≥ 500 CD4 cells/ μ l.

Stage 2: A case has no AIDS-defining condition, but the level of CD4 cells has fallen to 200-499 cells/ μ l.

Stage 3: Diagnosis with any one of 26 AIDS-defining conditions which are indicative of a severe immune deficiency, or a laboratory test demonstrating severe immune deficiency: CD4 count <200 cells/ μ l or CD4 percent $<14\%$. Previously referred to as AIDS.

Stage unknown: A case of HIV without information available on CD4 levels or AIDS-defining conditions.

Incidence: The number of persons who develop a disease or infection in a certain period of time, usually a year.

Incident case: A person who has been diagnosed with a disease or is newly infected (in this case, with HIV), regardless of his/her vital status (living or deceased).

Injection drug user (IDU): Persons who have a history of injecting non-prescription drugs.

Late diagnosis: A diagnosis of stage 3 HIV infection within 30 days of initial HIV diagnosis (formerly called "concurrent diagnosis"). This is indicative of someone testing late in the course of the infection.

Men who have sex with men (MSM): Males who have a history of sexual contact with other males.

MSM/IDU: MSM who also have a history of injecting non-prescription drugs.

New diagnoses: Number of cases newly diagnosed over a given period of time, usually a year. In HIV

surveillance, new diagnoses do not necessarily represent new infections, as newly diagnosed cases may have been infected for many years; thus, only some newly diagnosed cases are also incident cases.

Pediatric case: Children who are 12 years or younger at the time of diagnosis.

Perinatal risk: HIV transmission from mother to child during birth or after birth through breastfeeding.

Prevalence: The total number of persons living with HIV infection at one point in time. The prevalence estimate for all of Michigan as of January 1, 2014 is 21,300. This estimate includes: 1) persons who have stage 3 HIV infection (AIDS); 2) persons diagnosed with HIV infection but who have not progressed to stage 3 infection; 3) an estimate of those who have tested positive for HIV but have not yet been reported; and 4) an estimate of persons with HIV infection who have not yet been diagnosed.

Prevalent case: A person who is currently living with a disease or infection (in this case, HIV).

Primary and secondary syphilis: Infectious stages of syphilis. Primary syphilis presents approximately 10-90 days after the initial exposure and is characterized by a skin lesion (chancre) appearing at the point of contact, which is usually the genitalia but can be anywhere on the body. Secondary syphilis occurs 1-6 months (commonly 6-8 weeks) after the primary infection. The most common presentation is a reddish-pink non-itchy rash on the trunk and extremities. The rash can involve the palms of the hands and the soles of the feet.

Public health surveillance: The ongoing collection, analysis, interpretation, dissemination, and evaluation of population-based information about persons with a condition or risk factor of public health concern.

Rate: The number of cases divided by the number of persons in the general population (both infected and uninfected). The resulting number is standardized by multiplying by a multiple of 10, usually 1,000 or 100,000. This number allows one to compare the impact of disease between groups.

Syphilis: All cases of primary and secondary syphilis and all stages of latent syphilis. Later stages of syphilis are defined as having serologic proof of infection without signs or symptoms of disease. Those diagnosed as having latent stages of syphilis may be infected for just over a year up to decades. These stages of syphilis are not as reflective of recent epidemiology and are significantly less infectious than primary and secondary stages.

Undetermined risk: Males and females with no identified risk for HIV. This includes males whose only documented risk is sex with a female, and their female partner's risk and HIV status is unknown (note: these males meet the definition of heterosexual contact w/ female (HCF) in the exposure categories, but they remain "undetermined" risk in the transmission categories).

APPENDIX B: FACILITY TYPE DESCRIPTIONS

Data Source: Enhanced HIV/AIDS Reporting System (eHARS)

Facility Descriptions

Inpatient Facility — Hospital: A health facility providing medical treatment, examination, and/or observation to persons who could stay overnight at the facility.

Outpatient Facility — Primary Care Clinic: A facility providing initial medical services to patients who do not stay overnight at the facility.

Emergency Room: A part of a hospital or clinic providing emergency medical care to persons with a sudden illness or trauma.

Outpatient Facility — Infectious Disease Clinic: A facility providing infectious disease treatment—for conditions including, but not limited to, HIV, TB, and sexually transmitted diseases—to persons who do not stay overnight at the facility.

Outpatient Facility — Private Physician's Office: A facility providing services to patients who do not stay overnight at the facility and where the provider is considered independent from economic or political control of a larger health entity.

Outpatient Facility — Hospital: A facility providing services to persons who do not stay overnight at the facility.

Outpatient Facility — Community Health Center: A facility providing primary and preventative medical services to persons who live within a specific community—with limited access to care—and who do not stay overnight at the facility.

Screening, Diagnosis & Referral — HIV Counseling and Testing Site: A facility, agency, or organization providing persons with initial HIV services—including testing, counseling, and medical referral—but not with ongoing HIV-related medical care nor other social or health services.

Screening, Diagnosis & Referral — Blood Bank or Plasma Center: A facility, agency, or organization that collects blood from donors and then types, separates, stores, and prepares blood components for future transfusions.

Other: Other facilities, agencies, or organizations providing inpatient specialty care (a hospital-based drug treatment program), outpatient specialty care (a pediatric HIV clinic), screening/diagnostic/referral services (a STD clinic), or basic blood testing (a private laboratory). Correctional facilities that provided HIV-related services would also fall into this category.

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